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ABSTRACT

Students, parents, and organizations concerned with education challenged New York State's funding of New York City's public schools. The plaintiffs, the Campaign for Fiscal Equity and others, asserted that the state failed to ensure that New York City's public schools received adequate funding to afford its students the sound basic education guaranteed by the Education Article of the New York State Constitution. They also asserted that the state's funding mechanisms had an adverse, disparate impact on minority students, in violation of specific implementing regulations of Title VI of the Civil Rights Act of 1964. Though defendants vigorously disputed the claims, the court held that the education New York City provided students was so deficient that it fell below the constitutional floor set by the Education Article of the state's constitution, and that the state's actions were a substantial cause of this constitutional violation. The court also found that the state school funding system had an adverse and disparate impact on minority students, and this impact was not adequately justified by any reason related to education. Plaintiffs proved their federal law claim as well. The court ordered that the defendants establish reforms of school financing and governance designed to redress the constitutional and regulatory violations set forth in this opinion. (SM)

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New York State Unified Court System
Albany, New York
January 9, 2001

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UD 034 321

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SUPREME COURT : STATE OF NEW YORK
COUNTY OF NEW YORK : I.A.S. PART 25
- X

CAMPAIGN FOR FISCAL EQUITY, et al. : Index No.: 111070/93

Plaintiffs, :

-against- :

THE STATE OF NEW YORK, et al., :

Defendants. :
- X

DeGrasse, J.:

> [E]ducation is perhaps the most important function of state and local governments. Compulsory school attendance laws and the great expenditures for education both demonstrate our recognition of the importance of education to our democratic society. It is required in the performance of our most basic public responsibilities, even service in the armed forces. It is the very foundation of good citizenship. Today it is a principal instrument in awakening the child to cultural values, in preparing him for later professional training, and in helping him to adjust normally to his environment. In these days, it is doubtful that any child may reasonably be expected to succeed in life if he is denied the opportunity of an education.

(Brown v Board of Education of Topeka, 347 US 483, 493 [1954].)

In the years since the Brown decision was handed down, state and local governments have struggled with fulfilling the "most important function" of providing universal free primary and secondary education. This case raises an issue that has proved particularly vexing to

educators, policy makers, and the general public: how to devise a method of funding public schools that assures students at least a minimally adequate education.

Plaintiffs, comprised of students, parents and organizations concerned with education issues, challenge New York State's funding of New York City's public schools. After pre-trial motion practice, appeals, and discovery, two claims were tried before this court from October 12, 1999 to May 15, 2000. Extensive post-trial briefing followed.

In the first of these two claims, plaintiffs assert that the State has failed to assure that New York City's public schools receive adequate funding to afford their students the "sound basic education" guaranteed by the Education Article of the New York State Constitution (NY Const article 11, § 1).

In their second claim, plaintiffs assert that the State's funding mechanisms have an adverse and disparate impact upon the City's minority public school students -- who comprise 73% of the State's minority students and approximately 84% of the City's public school enrollment -- in violation of specific implementing regulations of Title VI of the Civil Rights Act of 1964 (42 USC § 2000d; 34 CFR § 100.3[b][1], [2]).

The defendants who remained in the case by the time of trial, New York State, Governor George Pataki, and State Tax

Commissioner Michael Urbach, vigorously dispute these claims. They argue that New York State spends more per student on education than all but three other states, that New York City spends more per student than any other large school district in the nation, and that this provision of funds is more than is necessary to provide a sound basic education to New York City's public school students. In the alternative, defendants argue that any failure to provide a constitutionally adequate education is the fault of New York City, for failing to contribute its fair share of school funding, and of the City's Board of Education, for failing to adequately manage the funding it receives from federal, State, and City sources. Defendants also assert that State education aid is allocated on a non-discriminatory basis.

The court holds that the education provided New York City students is so deficient that it falls below the constitutional floor set by the Education Article of the New York State Constitution. The court also finds that the State's actions are a substantial cause of this constitutional violation.

With respect to plaintiffs' claim under Title VI's implementing regulations, the court finds that the State school funding system has an adverse and disparate impact on minority public school children and that this disparate impact is not adequately justified by any reason related to education. Accordingly, plaintiffs have proven their federal law claim as well. The findings of fact that form the

foundation for these legal conclusions are set forth in sections III - VI, below. However, before embarking on an examination of the massive factual record presented by the parties, it will be necessary first to provide a brief procedural history of the case, and a brief description of the arc of school funding litigation nationwide that began in California with Serrano v Priest (5 Cal3d 584, 487 P2d 1241 [1971]). This background will help place into context both the parties' arguments and the Court of Appeals' pronouncements concerning the content of the "sound basic education" standard.

I. THE PROCEDURAL HISTORY OF THIS CASE

Plaintiffs filed this action in May 1993 against the current defendants, an array of other elected officials, and the Commissioner of the State Education Department ("SED").[1] At the same time the City of New York and the New York City Board of Education brought an action against the State and other defendants alleging virtually identical claims. Both actions came before this court.

Defendants moved to dismiss both complaints. This court partially granted defendants' motions as discussed in the following

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[1]Plaintiffs eventually stipulated to the dismissal of the SED Commissioner on the condition that SED agree to cooperate with discovery as if it remained a party. Additionally, plaintiffs agreed to dismiss a number of elected officials, including the State Comptroller, on the condition that these officials not invoke their non-party status to oppose any relief or remedy granted plaintiffs.

paragraphs.

This court dismissed the City's action on the ground that as a subdivision of the State subject to the State's direction and control the City could not challenge the constitutionality of the acts of its governmental parent.[2] Several New York community school boards, governmental units which are part of the City's Board of Education, were dismissed as plaintiffs from the instant lawsuit on the same grounds (see Campaign for Fiscal Equity, Inc. v State of New York, 162 Misc2d 493, 496-7 [1994]).

This court also dismissed plaintiffs' federal and State equal protection claims as barred by decisions of the Supreme Court and the New York Court of Appeals, respectively. In San Antonio Indep. School District v Rodriguez (411 US 1 [1973]) the Supreme Court held that Texas' system of financing its school system largely through property taxes, which resulted in large school funding disparities between rich and poor areas of the state, did not violate the "rational basis" test of the equal protection clause of the Fourteenth Amendment to the United States Constitution. In Board of Education, Levittown Union Free School District (57 NY2d 27 [1982]) the Court of Appeals reached a similar conclusion with respect to the New York State Constitution's equal protection clause.

The Levittown Court thus rejected an attack on New York

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[2]There are exceptions to this rule but none apply here.

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State's school funding based on an *equality* principle, a principle that posits that all school districts must be funded equally. However, it left open the door to an argument based on an *adequacy* principle, an argument based on the premise that the State must ensure an education to public school students that satisfies some basic minimum requirements (see Levittown, supra, 57 NY2d at 38). Following the distinction between claims based on equality and adequacy set forth in Levittown, this court let stand plaintiffs' claim that the State's funding mechanisms cause New York City public school students to receive something less than the sound basic education required by the Education Article of the New York State Constitution.

This court dismissed plaintiffs' claims based on Title VI, which bars discrimination by schools that receive federal funding. The complaint included no allegations of discriminatory intent, a necessary element of a Title VI claim.

By contrast intent is not an element of plaintiffs' claims under various implementing regulations promulgated by the federal Department of Education under Title VI. These regulations incorporate a disparate impact theory of liability. Accordingly this court let stand plaintiffs' claims under Title VI's implementing regulations (Campaign for Fiscal Equity, supra, 162 Misc2d at 499-500).

The result reached by this court was left intact by the Court of Appeals (see Campaign for Fiscal Equity v State of New York, 86 NY2d

307 [1995] [referred to herein as "the 1995 decision"]). While the Court of Appeals affirmed this court's dismissal of certain parties and claims, it disagreed with aspects of this court's analysis of plaintiffs' constitutional claim. The Court of Appeals set forth a "template" to guide this court's determination as to whether defendants are providing New York City public school students with a sound basic education. The Court of Appeals' decision is discussed at greater length in section III below.

The parties delivered their opening statements on October 12, 1999. Testimony was taken during 111 court days over a seven- month period. The last of 72 witnesses left the stand on May 15, 2000. Over 4300 documents were admitted into evidence. Extensive post-trial briefs and proposed findings of fact were submitted by the parties, and the court heard closing arguments on July 29, 2000.

II. A BRIEF HISTORY OF SCHOOL FUNDING LITIGATION

School funding litigation in this State, from Levittown to the instant action, has followed a pattern seen in similar litigation around the nation. It is common among commentators to divide school funding litigation into three "waves" defined by the dominant legal theory asserted by plaintiffs (see Heise, State Constitutions, School Finance Litigation, and the "Third Wave": From Equity to Adequacy, 68 Temp L Rev 1151, 1152 n 9; Thro, Judicial Analysis During the Third Wave

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of School Finance Litigation: The Massachusetts Decision as a Model, 35 BC L Rev 597). In fact there is much overlap between the legal theories asserted in these three "waves" (see Patt, School Finance Battles: Survey Says It's All Just a Change in Attitudes, 34 Harvard CR - CL L Rev 547 [1999]). However, the organization of the relevant cases into waves provides a reasonably accurate means for discussing trends in school funding litigation.

As is well known, most states rely in large measure upon local property taxes for education funding. Because of property value differences certain localities benefit from high tax revenues and others suffer from low tax revenues resulting in uneven funding among school districts.

In the first wave of cases, which ran from the late 1960s to the Supreme Court's San Antonio decision in 1973, plaintiffs argued that these variations in funding amounted to violations of the Equal Protection Clause of the federal Constitution. As noted above, this line of attack was foreclosed by the San Antonio decision, in which the Supreme Court declined to find that education was a "fundamental right" under the federal Constitution or that the plaintiffs in property-poor districts were a protected class. Accordingly, the San Antonio Court held that disparities in school funding would be judged by the "rational basis" test. The Supreme Court had no difficulty finding that it is permissible for states to jointly fund public schools with localities,

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and that the inequality in funding caused by differences in property wealth among school districts was a by-product of a state's rational decision to give localities a voice in funding and governing their local schools. (San Antonio, supra, 411 US at 54-5.)

The second wave of cases, beginning with the landmark New Jersey case of Robinson v Cahill (62 NJ 473, 303 A2d 273, cert denied 414 US 976 [1973]), concerned arguments based on provisions of state constitutions -- usually, but not always, the equal protection and education clauses of state constitutions.[3] With the possible exception of Mississippi, all the states have some form of education clause in their respective state constitutions.[4] Plaintiffs in the second wave

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[3]The New Jersey Supreme Court in Robinson actually rejected a state equal protection challenge. That case was decided solely on the New Jersey Constitution's Education Clause, presaging the "third wave" of school finance litigation described in the text, infra (see Robinson v Cahill, 62 NJ at 499-501, 515-21).

[4]See Ala Const art XIV, § 256; Alaska Const art VII, § 1; Ariz Const art XIV, § 1; Cal Const art IX, § 1; Colo Const art IX, § 2; Conn Const art VIII, § 1; Del Const art X, § 1; Fla Const art IX, § 1; Ga Const art VIII, § 1; Haw Const art X, § X, § 1; Idaho Const art IX, § 1; Ill Const art X, § 1; Ind Const art VIII, § 1; Iowa Const art IX, § 3; Kan Const art VI, § 1; Ky Const § 183; La Const art VIII, § 1; Me Const art VIII, § 1; Md Const art VIII § 1; Mass Const, pt 2, ch V, § 2; Mich Const art VIII, § 2; Minn Const art XIII, § 1; Mo Const art IX § 1, cl a; Mont Const art X, § 1; Neb Const art VII, § 1; Nev Const art XI, § 2; NH Const pt 2, art 83; NJ Const art VIII, § 4, para 1; NM Const art XII, § 1; NY Const art XI, § 1; NC Const art IX, § 2; ND Const art VIII, § 1; Ohio Const art VI § 3; Okla Const art XIII, § 1; Or Const art VIII, § 3; Pa Const art III, § 14; RI Const art XII, § 1; SC Const art XI, § 3, SD Const art VIII, § 1; Tenn Const art XI, § 12; Tex Const art VII, § 1; Utah Const art X, § 1; Vt Const ch 2, § 68; Va Const art VIII, § 1; Wash Const art IX, § 1; W Va Const art XII, § 1; Wis Const art X, § 3; Wyo Const art VII,

cases generally argued that the existence of an education clause in a state constitution meant that education was a "fundamental right" and that any impingement of that right was subject to "strict scrutiny" under standard equal protection analysis. Levittown was one of the cases in this second wave, and it was among the majority of cases that found that unequal funding of school districts did not violate state equal protection clauses.

Commentators point to three cases decided in 1989 by the highest courts of Montana, Kentucky, and Texas as the beginning of the third wave (see Heise, supra, 68 Temple L Rev at 1162).[5] With some exceptions, third wave cases de-emphasize equal protection analysis and rely instead solely on education clauses in state constitutions (e.g. Abbeville Co. School Dist. v State of South Carolina, 335 SC 58, 515 SE2d 535 [SC 1999]; McDuffy v Secretary of the Executive Office of Education, 415 Mass 545, 615 NE2d 516 [Mass 1993]; cf. Brigham v State, 166 Vt 246, 692 A2d 384 [Vt 1997] [post-1989 case employing equal protection analysis to strike down school funding scheme]).

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§ 1. With respect to Mississippi, commentators are divided as to whether language in the state's constitution actually creates a right to a free public education (see McUsic, The Use of Education Clauses in School Finance Reform Litigation, 28 Harv J on Legis 307, 311 n 5).

[5]The three 1989 cases are Helena Elementary School Dist. v State (236 Mont 44, 769 P2d 684 [Mont 1989]), Rose v The Council For Better Education (790 SW2d 186 [Ky 1989]), and Edgewood Indep. School Dist. v Kirby, 777 SW2d 391 [Tx 1989]).

Although the third wave cases contain greater diversity in legal reasoning than some commentators suggest, these cases are for the most part characterized by an emphasis on adequacy rather than equality. Plaintiffs in the initial two waves of school funding cases tended to emphasize reducing spending disparities and focused on input measures like per-pupil spending. Plaintiffs in third wave cases concentrate instead on the sufficiency of school funding and postulate that there is a constitutional floor of minimally adequate education to which public school students are entitled. Where courts have found that the education afforded public school students falls below this constitutional floor, they have found violations of their state constitutions (see Abbeville Co. School Dist. v State of South Carolina, 335 SC 58, 515 SE2d 535 [SC 1999]; DeRolph v State Of Ohio, 78 Ohio St3d 193, 677 NE2d 733 [Ohio 1997]; McDuffy v Secretary of the Executive Office of Education, 415 Mass 545, 615 NE2d 516 [Mass 1993]; Rose v The Council For Better Education 790 SW2d 186 [Ky 1989]).

In third wave cases courts are called on to give content to education clauses that are composed of terse generalities. For example, in Ohio the relevant constitutional provision requires the state legislature to secure "a thorough and efficient system of common schools" (Ohio Const art VI, § 2). In South Carolina the relevant constitutional provision provides only that the legislature "shall provide for the maintenance and support of a system of free public

schools open to all children in the state" (SC Const art XI, § 3).

In Rose v The Council For Better Education (790 SW2d 186) the Supreme Court of Kentucky placed a detailed gloss upon that state's typically vague education clause. The court held that the constitutional mandate that the state "provide an efficient system of common schools throughout the state" meant that it must create a school system that has as its goal "each and every child['s]" development of seven "capacities."[6] The goals articulated in Rose, though relatively detailed and ambitious, have been followed by at least three states in defining their own education clauses (see Claremont School Dist. v Governor, 142 NH 462, 474, 703 A2d 1353 [NH 1997]; McDuffy v Secretary of the Executive Office of Education, 415 Mass 545, 617, 615 NE2d 516 [Mass 1993]; Alabama Coalition for Equity v Hunt, Op. Of the Justices,

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[6]These seven "capacities," which the Kentucky court found were "minimum goals in providing an adequate education" are: "(i) sufficient oral and written communication skills to enable students to function in a complex and rapidly changing civilization; (ii) sufficient knowledge of economic, social, and political systems to enable the student to make informed choices; (iii) sufficient understanding of governmental processes to enable the student to understand the issues that affect his or her community, state, and nation; (iv) sufficient self-knowledge and knowledge of his or her mental and physical wellness; (v) sufficient grounding in the arts to enable each student to appreciate his or her cultural and historical heritage; (vi) sufficient training or preparation for advanced training in either academic or vocational fields so as to enable each child to pursue life work intelligently; and (vii) sufficient levels of academic or vocational skills to enable public school students to compete favorably with their counterparts in surrounding states, in academics or in the job market." (Rose, supra, 790 SW2d at 212, & n 22.)

624 So2d 107 [Ala 1993] [advisory opinion directing state legislature to follow order of trial court]).

Rose is instructive in this case as it highlights what the New York Court of Appeals did *not* do in its 1995 decision. Using the template provided by the Court of Appeals in its 1995 decision, this court defines in the next section the meaning of "sound basic education" guaranteed by New York State's Education Article.

III. THE LEGAL STANDARD FOR EVALUATING PLAINTIFFS' EDUCATION ARTICLE CLAIM

The Education Article of the New York State Constitution provides simply:

> The legislature shall provide for the maintenance and support of a system of free common schools, wherein all the children of this state may be educated.

(NY Const art XI, § 1.)

The Court of Appeals has interpreted this article to require the provision of "a sound basic education." (Levittown, supra, 57 NY2d at 48.)

In its 1995 decision the Court of Appeals directed this court to undertake a three-part inquiry in evaluating plaintiffs' Education Article claim. First, this court must define what constitutes a sound basic education. Second, the court must determine whether New York City school children are provided with the opportunity to obtain a sound

basic education in the City's public schools. Third, if New York City public school children do not have the opportunity to obtain a sound basic education, the court must determine whether there is a "causal link" between this failure and the State's system for funding public schools (86 NY2d at 317-18).

In this section the court provides a definition of sound basic education. In section IV the court will determine whether New York City public school students are provided with a sound basic education. In section V, the court will address the causation issue.

In its 1995 decision, the Court of Appeals stated:

> We do not attempt to definitively specify what the constitutional mandate of a sound basic education entails. Given the procedural posture of this case, an exhaustive discussion and consideration of the meaning of a "sound basic education" is premature. Only after discovery and the development of a factual record can this issue be fully evaluated and resolved. Rather, we articulate a template reflecting our judgment of what the trier of fact must consider in determining whether defendants have met their constitutional obligation. The trial court will have to evaluate whether the children in plaintiffs' districts are in fact being provided the opportunity to acquire the basic literacy, calculating and verbal skills necessary to enable them to function as civic participants capable of voting and serving as jurors.

(Id. at 317-18.)

The Court of Appeals also made it clear that the State must assure that certain essential inputs are provided to public school students.

> Children are entitled to minimally adequate physical facilities and classrooms which provide enough light, space, heat, and air to permit children to learn. Children should have access to minimally adequate instrumentalities of learning such as desks, chairs, pencils, and reasonably current textbooks. Children are also entitled to minimally adequate teaching of reasonably up-to-date basic curricula such as reading, writing, mathematics, science, and social studies, by sufficient personnel adequately trained to teach those subject areas.

(Id. at 317.)

A. The Education Article Requires a Sound Basic Education, Not One That is State of the Art

The defendants are correct when they argue that the Court of Appeals' 1995 decision did not call for the provision of a "state of the art" education. The Court clearly intended that a sound basic education should not be defined in a way that incorporates the highest aspirations of educators. The Court repeatedly used the terms "adequate," "basic," and "minimally adequate" to describe the education to be provided to the State's public school students. The Court of Appeals did not, as other states' high courts have done, adopt the ambitious "minimum goals" for an adequate education first set forth by Kentucky's Supreme Court in

Rose v The Council For Better Education (790 SW2d 186, 212).

Further evidence that the Court of Appeals did not set the constitutional floor by reference to a state of the art education is the Court's statement that

> because many of the [State Board of Regents' State-wide educational standards] exceed notions of a minimally adequate or sound basic education -- some are also aspirational -- prudence should govern utilization of the Regent's standards as benchmarks of educational adequacy. Proof of noncompliance with one or more of the Regents ... standards may not, standing alone, establish a violation of the Education Article.

(86 NY2d at 317.)

After the Court of Appeals' 1995 decision the New York State Board of Regents promulgated more rigorous educational standards. Therefore, contrary to plaintiffs' argument, these new standards *a fortiori* cannot constitute the definition of a sound basic education.

The new standards, called the Regents Learning Standards, were adopted in 1996 after more than a decade of development. The standards embrace seven areas of study.[7] In each of these subject areas, four or five basic standards are set forth. Each standard is

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[7]These seven areas are: English Language Arts; Social Studies; Mathematics, Science and Technology; the Arts; Languages Other Than English; Career Development and Occupational Studies; and Health, Physical Education and Home Economics.

then applied at three levels (elementary, intermediate and commencement). Examples of student work that demonstrate mastery of the standards accompanies the standards. Some of the Regents Learning Standards set forth in general terms basic skills and areas of knowledge that fall well within a sound basic education.[8] However, it is clear when looking at examples of student work that satisfy the standards that some of the standards require work that exceeds a sound basic education.[9] Accordingly, the court must heed the Court of Appeals' direction to use the new standards with "prudence."

Even if the new Regents Learning Standards were not more rigorous than the old, this court would reject using the new standards to embody the definition of sound basic education. Admittedly it would tempting to use the Regents Learning Standards to provide content for the sound basic education standard as the plaintiffs' urge. The Standards' specificity would probably help the court take the measure of the education provided New York City public school students, just as they help the Regents do the same. However, this approach would essentially define the ambit of a constitutional right by whatever a state agency says it is. This approach fails to give due deference to the State Constitution and to courts' final

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[8] E.g. Learning Standards for English Language Arts, Standard 1, Commencement.

[9] E.g. Learning Standards for Mathematics, Science, and Technology, Standard 4, Commencement.

authority to "say what the law is." (Marbury v Madison, 1 Cranch [5 US] 137, 177; Schieffelin v Komfort, 212 NY 520, 530-31.)

Finally, the Court of Appeals left undisturbed Levittown's holding that inequalities in school funding among school districts do not run afoul of the State Constitution. Accordingly, defendants are correct that differences in spending among school districts do not, standing alone, establish that any of the lower-spending districts receive less than a sound basic education.

B. A Sound Basic Education Instills the Skills Students Need to Become Productive Citizens

While it is important to recognize the limits of the sound basic education standard set forth by the Court of Appeals, this court rejects defendants' contention that the Court of Appeals gave a final definition of sound basic education and that that definition is limited to an education sufficient to allow high school graduates simply to serve as jurors and voters.

First, the portion of the Court of Appeals' decision quoted above makes clear that the Court did not "definitively specify what the constitutional concept and mandate of a sound basic education entails." (86 NY2d at 317.) Instead the Court held that "[o]nly after discovery and the development of a factual record can this issue be fully evaluated and resolved." (Id.)

Second, the Court of Appeals described its summary of a sound

basic education as a "template." A template is a guide for constructing something; it is not the thing itself.

Finally, the statutory requirements for voting and for serving on a jury are low. With some minor exceptions, New York State law provides any United States citizen residing in the State who is 18 years of age or older, who is not mentally incompetent, who is not an incarcerated felon or previously incarcerated felon with an unexpired sentence or parole term, and who has not offered to sell his vote or buy that of another, may register to vote (see Election Law §§ 5-100, 5-102, 5-104, 5-106; 49 New York Jurisprudence2d Elections §§ 84-123). Similarly, jury service is open to anyone eighteen years or older who is a citizen of the United States and resident of the relevant county, who can understand and communicate in the English language, and who has not been convicted of a felony. (Judiciary Law § 510.) Clearly the Court of Appeals' template describes qualities above these low thresholds.

The Court of Appeals invoked voting and jury service as synecdoches for the larger concept of productive citizenship (see 86 NY2d at 316 [sound basic education should consist of skills necessary to enable children "to eventually function productively as civic participants capable of voting and serving on a jury"]). Productive citizenship means more than just being *qualified* to vote or serve as a juror, but to do so capably and knowledgeably. It connotes civic

engagement. An engaged, capable voter needs the intellectual tools to evaluate complex issues, such as campaign finance reform, tax policy, and global warming, to name only a few. Ballot propositions in New York City, such as the charter reform proposal that was on the ballot in November 1999, can require a close reading and a familiarity with the structure of local government.

Similarly, a capable and productive citizen doesn't simply show up for jury service. Rather she is capable of serving impartially on trials that may require learning unfamiliar facts and concepts and new ways to communicate and reach decisions with her fellow jurors. To be sure, the jury is in some respects an anti-elitist institution where life experience and practical intelligence can be more important than formal education. Nonetheless, jurors may be called on to decide complex matters that require the verbal, reasoning, math, science, and socialization skills that should be imparted in public schools. Jurors today must determine questions of fact concerning DNA evidence, statistical analyses, and convoluted financial fraud, to name only three topics.

Defendants argue that passage of the Regents Competency Tests -- which measure the reading, writing and mathematic competency required of eighth to ninth graders -- is a sufficient indicator that a student

is capable of voting or serving on a jury.[10] Defendants' expert witness, Professor Herbert Walberg, a professor of education and psychology at the University of Illinois - Chicago, testified that most media coverage of elections is pitched at an eighth to ninth grade level of reading comprehension and that therefore any student who passes the Regents Competency Test is a productive citizen capable of voting or sitting on a jury. The court was not persuaded by this testimony. This argument implies that the Court of Appeals believed that the State Constitution requires only that graduates of New York City's high schools receive a ninth-grade education.

Beyond voting and jury service, productive citizenship implies engagement and contribution in the economy as well as in public life. Defendants make much of the fact that the Court of Appeals' 1995 decision contains no explicit reference to public schools' duty to give students the foundational skills they need to obtain productive employment or pursue higher education. The court finds that this duty is inherent in the Court of Appeals' admonition that students must be prepared to become productive citizens.

Any other interpretation of the 1995 decision would ignore a universally understood purpose of public education. Plaintiffs presented unrebutted expert testimony that preparing students for

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[10]The Regents Competency Tests are discussed at greater length below.

employment has traditionally been one of the rationales for public education. This point has been recognized by the New York State Education Department and in papers generated by national conferences on public education. The Supreme Court has long recognized that public education is meant to assist students to become "self-reliant and self-sufficient participants in society." (Wisconsin v Yoder, 406 US 205, 221 [1971].) Most state courts that have examined the substantive right to education under the education clauses of their constitutions have recognized both civic participation and preparation for employment as the basic purposes of public education.[11]

Finding that a sound basic education encompasses preparation for employment begs the question: what level of employment? The Court of Appeals' 1995 opinion does not explicitly address this issue. It is reasonable to assume that the Court of Appeals did not intend that the City's high school graduates need only be prepared for low-level jobs paying the minimum wage. On the other hand, the Court's use of the "minimally adequate" standard indicates that a sound basic education

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[11] E.g. Abbeville Co. Sch. Dist. v South Carolina, 335 SC 58, 68-9, 515 SE2d 535 (SC 1999); Claremont School Dist. v Governor, 142 NH 462, 474-5, 703 AD2d 1353 (NH 1997); Campbell Co. School Dist. v Wyoming, 907 P2d 1238, 1259 (Wyo 1995); Rose v The Council for Better Education, 790 SW2d 186, 212 (Ky 1989); Edgewood Indep. School Dist. v Kirby, 777 SW2d 391, 395-6 (Tx 1989); Pauley v Kelly, 162 W Va 672, 705-6, 255 SE2d 859 (W Va 1979); Seattle Sch. Dist. No.1 v Washington, 90 Wash2d 476, 517, 585 P2d 71 (Wash 1978); Robinson v Cahill, 62 NJ 473, 515, 303 A2d 273 (NJ 1973); Serrano v Priest, 5 Cal3d 584, 605, 487 P2d 1241 (Ca 1971).

does not require that most of the City's public school graduates be accepted into elite four-year colleges and universities in preparation for lucrative careers. Some middle ground between these two extremes comports with the Court of Appeals' emphasis on preparation for productive citizenship and its eschewal of a state of the art standard.

The Court of Appeals' emphasis on productive citizenship connotes an education that contributes to society's economic needs as well as high school graduates'. An emphasis on the economic needs of society requires that this court look at the current and projected labor needs of the State of New York in general and the needs of New York City in particular. However, the labor needs of the City and State must be balanced with the needs of high school graduates. For example, while the greatest expansion in the local labor market might be composed of low level service jobs, such jobs frequently do not pay a living wage. A sound basic education would give New York City's high school graduates the opportunity to move beyond such work.

This analysis necessarily rests upon a dynamic interpretation of the Education Article. That the definition of sound basic education must evolve is axiomatic. If the meaning of the Education Article were to be frozen as of 1894, when it was added to the State Constitution, the Article would cease to have any relevance. It is undeniable that the level of skills necessary to obtain employment in today's economy exceed those required in 1894. "The Constitution is to be construed ...

to give its provisions practical effect, so that it receives 'a fair and liberal construction, not only according to its letter, but also according to its spirit and the general purposes of its enactment.'" (Ginsberg v Purcell, 51 NY2d 272, 276 [1980], quoting Pfingst v State of New York, 57 AD2d 163, 165 [1977].)

The remaining portion of this subsection constitutes findings of fact concerning the labor needs of New York City and State.

The unrebutted evidence presented at trial demonstrates that New York City has experienced a contraction of its manufacturing sector and a concomitant rise of its service sector. Stated in broad terms, jobs that pay a living wage in the service sector require a more rigorous formal education than jobs that have historically paid a living wage in the City's manufacturing sector. The plaintiffs submitted substantial evidence that there is a consensus among educators, labor experts, and business and government leaders around the nation that, as stated in the policy statement of the 1996 National Education Summit:

> Today's economy demands that all high school graduates, whether they are continuing their education or are moving directly into the workforce, have higher levels of skills and knowledge.[12]

The educational demands of New York City's current economy

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[12]The 1996 National Education Summit was a meeting convened in New York State concerning education and the economy attended by the President of the United States, and numerous state governors and chief executive officers of major corporations.

were recently summarized by the Mayor's Advisory Task Force on the City University of New York ("CUNY"). The CUNY Task Force was created by Mayor Giuliani to examine issues faced by CUNY, including the extensive need for remedial education for matriculating students - many of whom are graduates of New York City public schools. The Task Force was chaired by Benno Schmidt, formerly President of Yale University and, before that, Dean of the Columbia University School of Law. The Task Force retained both Price Waterhouse Coopers and the RAND Corporation to investigate CUNY's current operations.

The CUNY Task Force's final report, issued in June 1999, states that the minimum skills necessary to compete successfully for good jobs are "high-level academic skills."

> Opportunities for less-educated workers are likely to keep declining, while continued increases in the service sector will bring more good jobs to people with computer skills who are literate, can write, and are well-grounded in science and mathematics.

Plaintiffs' expert Professor Henry Levin, who has conducted research and published numerous papers concerning the economics of education, testified that between 1969 and 1998, the earnings of high school dropouts and high school graduates have declined relative to those of college graduates. Dr. Levin also found that the earnings of high school graduates, adjusted for inflation, declined during that time. The court finds Dr. Levin's findings to be credible and well-

founded.

The Governor's most recent Executive Budgets have stressed the increasing importance to the State of its high technology sector. However, there is a disconnect between the skills of the State's and City's labor forces and the needs of the high technology sector. Indeed, the myriad high-technology companies that have sprung up in the last five years in New York City's Silicon Alley must often go outside the City and State for personnel with appropriate skills.

In sum, this court finds that a sound basic education consists of the foundational skills that students need to become productive citizens capable of civic engagement and sustaining competitive employment.

C. **Plaintiffs' Standing**

Almost as an afterthought, defendants raise the issue of plaintiffs' standing in a one and-a-half page section near the end of their memorandum of law. Defendants do not explain why they raise this issue for the first time at this late juncture, after extensive motion practice raising other issues of justiciability and a seven-month trial. Plaintiffs, apparently unaware that defendants would raise this issue, do not mention it in their post-trial submissions.

Standing is a core requirement that a party requesting relief from a court have an injury in fact that is redressable by a judicial

resolution (see Community Board 7 of Manhattan v Schaffer, 84 NY2d 148, 154-5 [1994]). An organization may have standing if one or more of its members would have standing to sue, if the claims it brings are germane to the organization's purposes, and if neither the claim nor the remedy necessarily requires the participation of the individual members of the organization (The Society of the Plastics Indus. v County of Suffolk, 77 NY2d 761, 775 [1991]).

Standing *vel non* is a threshold determination that, "when challenged, must be considered at the outset of any litigation." (Id at 769.) However, this court is compelled to reach the issue even though defendants herein raise it only at the eleventh hour. Standing, unlike capacity to sue, concerns this court's jurisdiction and may not be waived (City of New York v State of New York, supra, 86 NY2d at 292; cf. Santoro v Schreiber, 263 AD2d 953, lv dismissed 94 NY2d 817 [1999]).

Defendants argue that none of the plaintiffs established injury in fact at trial. The court disagrees. Lead plaintiff CFE is an organization comprised, inter alia, of school parent organizations. As discussed below, the children of these parents who attend public school in New York City have established an injury in fact which is redressable by this court. Pursuant to CPLR 1201 children must appear in court via their parent or guardian. Accordingly, CFE has members who have suffered an injury in fact redressable by this court. The other

requirements of organizational standing are easily satisfied. CFE is an organization founded to reform school funding in New York State, so its mission is clearly related to the claims it asserts in this action. Finally, the participation of its members was not necessary to prosecute this action nor to devise a remedy.

IV. THE EDUCATION PROVIDED TO NEW YORK CITY'S PUBLIC SCHOOL STUDENTS

The following constitute the court's findings of fact regarding the New York City School District and the education it provides its students.

A. Summary of the Structure of New York City's Public Schools

New York City's public school system is the largest school district in the United States, comprised of approximately 1100 schools serving a student population of 1.1 million. In the 1999-2000 school year New York City's public schools employed over 135,000 people, including approximately 78,000 teachers, 19,000 teachers' aides, and 13,000 other administrators and pedagogical employees.

1. School Governance

Overall supervision of the New York City public school system is vested in the central Board of Education ("BOE") which has seven

members. Each of the five Borough Presidents appoints one BOE member and the remaining two members are appointed by the Mayor. BOE appoints a Chancellor (currently Harold Levy) who is responsible for the operation of the school system.

The system is divided into 32 geographically-based school districts to provide elementary and middle school education and six high school districts for secondary school education.[13] Each district is supervised by a district superintendent who, as of 1996, is responsible to the Chancellor for the operation of all the schools with their respective districts. Community school districts are also supervised by elected community school boards. High school districts are not supervised by community school districts and report only to the Chancellor. In addition to these geographically-based districts there are four non-geographical districts in New York City.[14]

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[13]Of the six high school districts, three are coterminous with the borough boundaries of Manhattan, Queens and the Bronx. The Brooklyn High School Superintendency includes over half of the high schools in Brooklyn. The Brooklyn and Staten Island Superintendency (BASIS) includes the rest of the Brooklyn High Schools as well as the high schools on Staten Island. The sixth high school district is the Alternative High School District.

[14]These four districts are: 1) the Alternative High School Superintendency, which includes schools that serve students with academic and other problems; 2) District 75 comprises all of the self-contained special education schools for severely and profoundly disabled children; 3) District 85 is the Chancellor's district, a centrally supervised district that includes 47 extremely low performing schools from around the City; and 4) District 89, a very small district established to govern a few anomalous schools.

In 1996, changes in State law altered the structure of the City's school system. The authority of community school boards to control and operate elementary and middle schools was revoked by the State legislature. The legislature gave the Chancellor the authority to appoint community school district superintendents from a list of candidates proffered by the community school boards, and the authority to terminate superintendents. These changes have increased the Chancellor's authority over community school district superintendents. Under this new governance statute, superintendents, rather than community school boards, have basic operating authority over how resources are used in the various districts.

Under New York State law, BOE is subject to the jurisdiction of the Board of Regents and the New York State Education Department ("SED"). The Board of Regents is composed of sixteen individuals, one from each of the State's twelve judicial districts, and four from the State at large, each of whom is elected to a five-year term by concurrent resolutions of both houses of the legislature. In any area where the legislature has not enacted specific statutes regarding educational policy, the policies issued by the Regents serve as the policies of the State. In practice, the Regents have broad legislative authority over the State's educational system and are charged with overseeing SED and choosing the State's Commissioner of Education. The Regents determine the standards by which all state elementary and

secondary schools shall operate.

While the Regents have no authority to determine school financing, the Regents, along with the Commissioner of Education, make annual finance recommendations to the State legislature. Funding proposals are also contained in the Governor's Executive Budget, which states the Governor's opening position in subsequent negotiations with the legislature. The legislature eventually enacts an annual budget bill which is signed into law by the Governor.

SED is the Regents' administrative arm. Together with the Commissioner of Education, SED is charged with the general management and supervision of the State's public schools. Subject to specific statutory mandates and the general control of the Regents, the Commissioner of Education possesses supervisory authority over all aspects of the public schools. The Commissioner's authority includes the power to promulgate regulations, to examine and inspect school facilities and curricula, and to advise and guide school officers and other public officials in all districts and cities in the State with regard to their duties and the general management of the schools (Education Law §§ 215, 305[2]). SED is not responsible for the day-to-day operation of public schools, but it does influence the operation of the schools by specifying the nature of the curricula, determining teaching standards, and issuing regulations pertaining to the rights of students.

2. Demographic Profile of New York City Public School Students

The students served by the New York City public schools come from varied backgrounds. Approximately 37% of students are Latino; 35% are African-American; 15.5% are White; 11.5% are Asian; and less than 1% are American Indian or Alaskan Native.

Close to 180 languages and dialects are spoken by students as their native tongue. BOE classifies approximately 16% of City public school students as "Limited English Proficient" ("LEP")[15] a designation given to students who score below the 40th percentile on a language assessment test. The large number of English Language Learners ("ELLs") in New York City is not surprising given that almost one in eleven students is a recent immigrant.

A defining characteristic of the New York City public school system is its high concentration of students from poor and low income families. In the 1998-99 school year, approximately 442,000 children -- out of a total student attendance that year of 1,093,071 -- came from families receiving Aid to Families with Dependent Children. In the 1997-98 school 73% of students from kindergarten through 6th grade were eligible to participate in the free lunch program, compared with 5% in the rest of the State.

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[15]BOE has recently replaced the term "Limited English Proficient" with "English Language Learner."

A large number of New York City public school students have special needs that require them to attend full-time or part-time special education programs. As of December 1, 1997, the most recent figure submitted in evidence, more than 135,000 students were enrolled in such programs.

The intersection of factors such as students' poverty, immigration status, and limited English language proficiency means that New York City has a high proportion of students "at risk" for academic failure. In the Regents' formulation "at risk" students are defined as

> those students whose social, economic or personal circumstances are not supportive of successful schooling ... They are at-risk of not completing high school, and, as a result, will be denied future opportunities for future participation in and contribution to the economic, social, cultural and civic life of their communities.

The correlation between high poverty and low academic performance is well documented in numerous State publications, and was confirmed by fact and expert witnesses for both defendants and plaintiffs. The evidence points to several causes of the depressed academic achievement of poor children. Plaintiffs' experts testified that children in poverty are often educationally disadvantaged by domestic environments that do not encourage, and sometimes impede, academic endeavor. Parents in low-income families frequently work long

hours and often do not have much formal education themselves. Thus they frequently lack the time to engage in activities to bolster their children's education. Additionally, family income must be spent on food and shelter and frequently there is little money left over for books or other educational tools. For most low-income families a home computer remains unaffordable. However, even if money were available, low-income parents with little formal education may not appreciate the need for educational enrichment via books, educational toys or a computer. Children of low income families typically start school without such skills as knowledge of the alphabet, sound/symbol relationships, familiarity with counting and numbers, and vocabulary and concept development. All the disadvantages summarized in this paragraph may be compounded in poor single-parent families.

Other factors that often attend poverty, such as homelessness, frequent change of residence, teen pregnancy, and poor health, have negative effects on educational achievement.

Low income students frequently live in areas and attend schools with high concentrations of poverty, which limits their contact with higher achieving students from more privileged backgrounds. Isolation of low-income students from higher achieving peers can reinforce negative attitudes toward schooling.

Minority status is another socioeconomic indicator that is negatively correlated with student achievement, in part because it is

linked with poverty. According to SED, minority students are "more likely than white students to attend public schools with concentrated poverty" where "concentrated poverty" is defined as more than 40% of students' families on public assistance. The evidence indicates that race and ethnicity are not pure proxies for poverty, however. Plaintiffs' expert Dr. David Grismer conducted a study of academic achievement by minorities in which he controlled for poverty status, parents' education and family income. Dr. Grismer found that race and ethnicity can be correlated with lower academic performance. The cause of this phenomenon has yet to be determined by social scientists. Explanations include the legacy of historic discrimination inflicted upon African-Americans and Latinos, and the rise of an anti-academic "oppositional" culture among some Blacks and Latinos that equates working hard in school with "acting White." It is not necessary to resolve this question in order to decide the issues presented by this lawsuit.

Recent immigrants also face formidable obstacles to academic success. They are plagued by the same factors, discussed above, that attend poverty. Lack of proficiency in English and unfamiliarity with American culture can also all have a negative effect on the academic performance of the children of recent immigrants.

As discussed in section V below, poverty, race, ethnicity, and immigration status are not in themselves determinative of student

achievement. Demography is not destiny. The amount of melanin in a student's skin, the home country of her antecedents, the amount of money in the family bank account, are not the inexorable determinants of academic success. However, the life experiences summarized above that are *correlated* with poverty, race, ethnicity, and immigration status, do tend to depress academic achievement.

The evidence introduced at trial demonstrates that these negative life experiences can be overcome by public schools with sufficient resources well deployed. It is the clear policy of the State, as formulated by the Regents and SED, that all children can attain the substantive knowledge and master the skills expected of high school graduates. The court finds that the City's at risk children are capable of seizing the opportunity for a sound basic education if they are given sufficient resources.

B. Measuring a Sound Basic Education By Inputs and Outputs

In its 1995 decision the Court of Appeals directed this court to evaluate whether New York City public school students are receiving a sound basic education by examining both "inputs," the resources available in public schools, and "outputs," measures of student achievement, primarily test results and graduation rates.

The inputs listed by the Court of Appeals fall into three large categories:

1. "minimally adequate teaching of reasonably up-to-date basic curricula such as reading, writing, mathematics, science, and social studies, by sufficient personnel adequately trained to teach those subject areas;"

2. "minimally adequate physical facilities and classrooms which provide enough light, space, heat, and air to permit children to learn;" and

3. "minimally adequate instrumentalities of learning such as desks, chairs, pencils, and reasonably current textbooks."

(86 NY2d at 317.)

Teacher quality and curriculum are discussed in subsections C-E, below. The adequacy of School facilities and classrooms is discussed in subsections F-G. The adequacy of "instrumentalities of learning" are discussed in subsection H, below. Educational outputs are discussed in subsection I below.

Relevant educational inputs and outputs must be examined over multiple years. The evidence at trial demonstrates the obvious proposition that education is cumulative. Primary and secondary school students acquire mastery of subjects by building on an expanding base of knowledge. A student's result on a sixth grade reading examination reflects her experience in grades one through five, and not merely of what she has learned in sixth grade.

C. Measures of Teacher Quality

The evidence demonstrates the validity of the intuitive conclusion that quality of teaching has a direct effect on student outcomes. This finding is confirmed by SED studies, by the empirical studies of plaintiffs' experts, and by the observations of numerous BOE district superintendents who testified at trial. Even defendants' experts agreed that quality teaching plays a role in effective education, though they differed with plaintiffs on the extent of that role and the correct measures of teacher quality.

There are several probative measures of teacher quality, including the number of uncertified teachers teaching in New York City public schools, teachers' scores on certification exams, and the quality of teachers' undergraduate education.

By each of these measures, the quality of New York City's public school teachers -- in the aggregate -- is inadequate. The court hastens to add that there are many excellent and dedicated teachers employed in New York City public schools -- many of whom foster learning under extremely adverse conditions. It is not hyperbolic to describe some New York City public school teachers as heroes. However, there are too many ill-trained and inexperienced teachers to meet the difficult challenges presented in the New York City public schools.

1. Certification

As part of its effort to ensure that qualified teachers are

employed in the State's public schools, the State created a system of certification. New York City has an overlapping system of license requirements for teachers. Under the current system in effect until 2003, the State has two categories of certification and a third category for uncertified teachers called temporary license.[16] In 2003 the Regents will impose more rigorous certification standards.

It is possible for an uncertified teacher to be an effective pedagogue. However, the evidence at trial demonstrates that lack of certification is generally an indicator that a teacher falls below minimal adequacy. The court also finds that the converse is not true. Numerous BOE personnel, including district supervisors, testified that certification standing alone is no guarantee of teacher quality. The court finds this testimony to be credible.

For the last decade, approximately 10 to 14% of New York

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[16]A provisional certificate (the more junior of the two certificates) is valid for five years and requires a bachelor's degree with credits in the teacher's content area, professional education credits, passage of the State's Liberal Arts and Science Test, passage of the State's Assessment of Teaching Skills, graduation from an approved teaching program (or satisfaction of an alternative transcript review) and completion of a child abuse and prevention course. Requirements for a permanent certificate (which is valid for life) are satisfaction of the requirements for a provisional certificate, a master's degree two years of teaching or a one-year internship, passage of a test in a subject area if applicable to their teaching, passage of the performance portion of the Assessment of Teaching Skills in which the individual is videotaped teaching. To teach without certification under a temporary license, an individual need only have a bachelor's degree and be nominated by a district that has exhausted its supply of certified teachers.

City's public school teachers have lacked certification in any given school year. The specific percentage of uncertified teachers listed as employed in a given district at a specific time is dependent upon which persons are counted as teachers, the definition of certification used, and the time in the school year that certification is assessed. Although figures from various sources differ slightly, they demonstrate that there is a high percentage of uncertified teachers working in New York City's public schools.

Plaintiffs' expert Professor Hamilton Langford, a professor of economics and public policy at the State University of New York at Albany, defined as uncertified any teacher who does not teach a single course in a subject area for which he is certified. (Such individuals may be certified in another subject.) Dr. Langford's research demonstrates that in the 1997-98 school year, the last year for which data were available, 13.7% of New York City's public school teachers were not certified in any subject they taught, as compared with only 3.3% in the rest of the State. Using a slightly different standard, SED issued a report that found that in 1997-98 17% of New York City's public school teachers taught more than 20% of their time in a subject in which they lack state certification, compared with a statewide average (which includes New York City) of 9%.[17] Statistics from BOE demonstrate that

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[17]State data on certification in New York City in the years prior to 1997-98 is somewhat less reliable in that it depended on self-reporting and was not cross-checked by SED.

the percentage of uncertified teachers has fluctuated between 11.4% and 13.3% between the 1991-92 and 1999-2000 school years.[18]

The highest percentage of uncertified teachers in New York City high schools tend to be in math and sciences. BOE records show that as of October 1, 1999, 476 uncertified teachers taught high school biology, 152 taught high school chemistry, and 435 taught high school mathematics. Using the conservative assumptions that each teacher instructs five classes a day of 25 students each (most high school classes are larger), and that these uncertified teachers were not replaced by certified ones, last year 59,500 students were taught high school biology by an uncertified teacher, 19,000 students were taught high school chemistry by an uncertified teacher, and 54,375 students were taught high school mathematics by an uncertified teacher.

Defendants contend that these shortages are in subjects in which there is a nationwide shortage of teachers. However, in New York State localities other than New York City experience nowhere near the shortages seen in the City.

Uncertified teachers tend to be concentrated in New York City's lowest performing schools. Such schools often present the most difficult working conditions, such as poor physical plants, large class

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[18]The census of uncertified teachers by BOE was taken on October 1 in the years in question, relatively early in the school year. The number of uncertified teachers tends to go up as the school year progresses and as certified teachers quit or retire.

sizes, and locations in high-crime neighborhoods. To some degree, this concentration of uncertified teachers in low performing schools is enabled by the teachers' collective bargaining agreement with BOE. With some restrictions, experienced teachers are able to transfer out of such schools pursuant to a contract provision that gives senior teachers priority in filling vacant positions in other schools. It is understandable that many, though not all, experienced teachers faced with the poor working conditions of many low performing schools would take the opportunity to transfer to schools in safer neighborhoods with better working conditions. This phenomenon is likely to increase in the coming years as retirements increase (for reasons described below) providing more opportunities for the remaining experienced teachers to transfer from low performing schools.

Indeed BOE has failed to employ sufficient certified staff in its very worst schools, known as Schools Under Registration Review ("SURR")[19], despite a mandate from SED that it hire only certified teachers in such schools as of September 1, 1999. The Regents have mandated that all schools shall have only certified teachers by 2003. The evidence suggests that BOE will have great difficulty fulfilling this mandate.

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[19]In 1989, the State began requiring that all schools within its jurisdiction be registered. Registration review status indicates that SED is considering revoking a school's registration because of poor performance (see 8 NYCRR § 100.2[p]).

Special education programs have a high proportion of uncertified teachers. In District 75, which comprises all of the self-contained special education schools for severely and profoundly disabled children, 25% of the teachers are uncertified. In bilingual special education classes, nearly 50% of the teachers are uncertified.

The Regents' decisions to remove uncertified teachers from SURR schools, and from the system entirely by 2003, are evidence that uncertified teachers are less able to provide New York City public school children with a sound basic education.

2. Passage Rates on Certification Examinations

The probative evidence at trial demonstrates that passage rates on certification examinations is predictive of teacher performance. Such evidence included expert testimony by Professor Ronald Ferguson of the Kennedy School of Government at Harvard University. Using voluminous data collected in Texas during the 1980s, Dr. Ferguson convincingly demonstrated a strong positive relationship between teacher quality as measured by certification test scores and student achievement.

Defendants' expert, Professor Eric Hanushek of the Economics Department at the University of Rochester, drew an opposite conclusion from Texas data concerning teacher test scores. Apparently this data was from more recent years than those studied by Dr. Ferguson, but Dr.

Hanushek's testimony on this matter was terse. Dr. Hanushek testified that data from Texas tends to show teachers with higher test scores do not affect student outcomes. As Dr. Hanushek set forth only his conclusion regarding the data without any discussion of his methodology, his testimony does not rebut Dr. Ferguson's.

Plaintiffs' expert Dr. Langford demonstrated that New York City public school teachers have a much higher failure rate on the State's certification examinations than do public school teachers in the rest of the State. For teachers employed in 1997-98, the first-time failure rate of the New York City public school teaching force on the basic Liberal Arts and Science Test ("LAST"), which is now required for all teachers, was 31.1%, compared with 4.7% for teachers elsewhere in the State. The average first score on the LAST for City teachers was 236.3 (220 is a passing score) while the average first score on the test for teachers in the rest of the State was 261.6. New York City teachers employed as of 1997-98 also did poorly on their first attempts on the Elementary and Secondary Assessment of Teaching Skills Written Tests ("Elementary ATS" and "Secondary ATS"). Nearly 27% of New York City teachers failed the Elementary ATS, compared with 3% of their peers in the rest of the State; 25.7% failed the Secondary ATS, compared with 3.5% in the rest of the State.

On many of the content or subject matter examinations, which test teachers' knowledge of their particular subject, New York City

teachers' failure rates were even higher. For example 42.4% of the math teachers currently teaching in New York City's public schools failed the math content examination at least once.

Dr. Langford's testimony was undercut somewhat by one of defendants' experts, Professor Michael Podgursky, Chair of the Economics Department at the University of Missouri. Dr. Podgursky testified that Langford's comparison of City teacher's test scores with those of teachers in other parts of the State may have been marred by incomplete data. In particular, Dr. Langford's data appeared to have a disproportionate number of test scores for New York City compared with other areas in the State. Plaintiffs opine that this may have been a result of the admittedly higher amount of turnover in New York City schools, which would result in more teachers taking the tests in the City, but this was not established as a fact. Additionally, because of the unavailability of test scores for teachers who were hired prior to the mid-1980s, Dr. Langford's test score analysis covers about 40% of New York City's teachers. Despite these valid criticisms of his study, Dr. Langford's testimony concerning teacher test scores is some evidence that New York City teachers are in general less qualified than those in the rest of the State.

3. Experience

The unrebutted evidence validates the unremarkable

proposition that teachers, like any professionals, frequently require several years' experience to achieve competency. The court finds that teaching experience of two years or less is correlated with poor teacher quality.

New York City public school teachers tend to have fewer years' experience than teachers in the remainder of the State. The attrition rate of new teachers is more than 50% in their first six years according to BOE data. In addition to negatively affecting teacher quality, high turnover can negatively affect a school's cohesiveness and ability to create cooperative effort among teachers. The large number of inexperienced teachers -- who, like uncertified teachers, are disproportionately assigned to the schools with the greatest number of at risk students -- makes it more difficult for New York City public schools to meet the needs of its students.

4. College or University Attended and Degree Obtained

Finally, plaintiffs presented probative evidence that the average New York City public school teacher attended a less competitive college than the average public school teacher in the rest of the State. For this analysis, plaintiffs ranked colleges using: 1) Barron's college rankings, 2) the average SAT scores and grades of admitted high school seniors, and 3) the average scores on State certification exams of the colleges' graduates. According to Dr. Langford's findings, which

are based on State data, in 1997-98 45% of New York City's public school teachers held undergraduate degrees from CUNY institutions, and 48.8% held masters degrees from CUNY institutions. BOE data show somewhat smaller, though still significant, percentages of New York City teachers who have received undergraduate and masters degrees from CUNY.

Dr. Langford's analysis also demonstrates that, in addition to hiring teachers from less competitive institutions, New York City tends to hire its teachers from the less qualified graduates of any given undergraduate institution.

The Regents and SED have found that the quality of undergraduate teacher programs can have an effect on public school student outcomes. Prompted by a report of its Task Force on Teaching, the Regents have recently heightened the requirements for teacher education programs in New York State. The findings of SED and the Regents are strong evidence that student outcomes are affected by teacher quality as measured by undergraduate institution attended.

As measured by the percentage of teachers with at least a master's degree, New York City's public school teachers again compare unfavorably with those in the rest of the State. In 1997-98, 16% of New York City's teachers held only a bachelor's degree or less, compared with 10.9% of teachers in the rest of the State. The sole measure by which City public school teachers compare favorably with the teachers from the rest of the State is that a higher percentage of City teachers

have a master's degree plus 30 credits. However, there was no evidence at trial that the additional 30 credits is a measure of teacher quality. The 30 credits may be in subjects wholly unrelated to the subject(s) taught by a teacher.

5. Professional Development

Professional in-service training, commonly known as professional development, involves the teaching of many skills to new and experienced educators. It includes teaching everyday teacher responsibilities such as classroom management, discipline, attendance taking and lesson planning. It also includes training to keep staff knowledgeable regarding content in specific subjects. Finally, it includes the teaching of instructional strategies, such as methods for determining whether students have mastered course material.

Both SED and BOE have recognized the positive effects of professional development programs on both new and experienced teachers. The Regents have stated that professional development is particularly crucial to help teachers deal with the needs of at risk students. The substantial inadequacies of the New York City public school teaching force enhances the need for effective professional development programs.

Professional development is essential in training and maintaining qualified teachers. Among other benefits effective

professional development can ameliorate the shortcomings of new teachers, keep teachers current in their subject areas, and disseminate techniques for teaching at risk students. The evidence demonstrates that professional development is most effective when it is ongoing, tailored to a school's local needs, and conducted in schools themselves rather than at remote locations. Community school district 2, one of the most effective school districts in New York City, has placed special emphasis on such intensive, school-based professional development. District 2's success in fostering a well-qualified corps of teachers is evidence of the benefits of professional development.

Plaintiffs put on the stand SED personnel and several district superintendents all of whom testified that the professional development currently being provided to New York City public school teachers is inadequate, particularly given the number of at risk students that attend the City's public schools. Districts with the greatest proportion of at risk students often spend the least on professional development. Because of the larger proportion of uncertified Math and Science teachers, the need for professional development in these areas is particularly acute. The court finds that this testimony was credible.

For their part, defendants recite the litany of professional development resources that BOE makes available to its teachers, and argue that the results of an internal BOE survey, the Performance

Assessment in Schools Survey ("PASS"), demonstrate that teachers are satisfied with these offerings. For the reasons set forth in the next section the PASS survey is not probative. After weighing the evidence offered by both sides on this issue, the court finds that the professional development currently provided to New York City public school teachers is inadequate.

6. BOE's Internal Ratings and Surveys Regarding Teacher Quality

Defendants argue that the most accurate measures of teacher quality are two internal rating mechanisms used by BOE. The court disagrees and finds that these two internal mechanisms, referred to herein as "U ratings" and "PASS reviews," are not reliable.

Each year, New York City teachers are reviewed by their principals and receive either a "U" for unsatisfactory or an "S" for satisfactory. BOE records demonstrate that very few New York City teachers receive Us. Defendants argue that this small number of unsatisfactory ratings is evidence that the City's public school teachers are qualified to teach.

The court finds credible the testimony of numerous current and former BOE personnel who stated that unsatisfactory ratings, in the words of former district superintendent Granger Ward, are "really reserved for those people who were the worst of the worst, those people who are actually -- endangering students in what they were doing in the

classroom." Mr. Ward described the system as "almost a system of triage. You are focusing on the worst, the absolute worst, and trying to get those individuals out of classroom settings. If you had people who were mediocre or not the absolute worst, you didn't put energy into trying to remove them."

The reasons why the U ratings have become a system for triage and not for accurate measurement of teacher quality were clearly set forth at trial. First, given the shortage of qualified teachers principals are aware that it may be difficult to replace a teacher rated unsatisfactory with a more effective teacher. If no replacement is found a principal must cobble together coverage by relying on substitute teachers and/or by assigning extra classes to permanent teachers who already have a full class load. Such improvised solutions strain a school's resources and rarely provide students with adequate instruction. Second, the administrative process required to rate a teacher unsatisfactory is arduous. A substantial record of the teachers' inadequacies -- and of the administration's attempts to intervene and remediate -- must be developed. Each documented item is potentially subject to the grievance procedure set forth in the teachers' contract. Third, the teachers' contract also restricts transfers of unsatisfactory teachers to other schools. Therefore, a principal who succeeds in rating a teacher unsatisfactory must retain that teacher on her employee roster.

The PASS ("Performance Assessment in Schools Survey") results are also not reliable measures of teacher quality. Under SED regulations, a school that performs poorly, even if not at the SURR level, must prepare a Comprehensive Education Plan ("CEP"). In an effort to help schools in this self-assessment BOE developed the PASS questionnaire. The PASS questionnaire is designed around the attributes of model, exemplary schools. The elements of such schools are used as a benchmark for self-assessment and the results of the PASS survey provide an organized basis for preparation of a CEP. A PASS review team is comprised of administrators, parents and teachers from the school, and an outside observer from BOE. The team completes the PASS review on a consensus basis.

The original purpose of the PASS review became obscured as schools began to worry that PASS reviews would be used by BOE for evaluating and comparing schools. According to Robert Tobias, the head of BOE's Division of Assessment and Accountability, school administrators' concern that the PASS survey would be used as an accountability mechanism causes them to paint a rosy, rather than a realistic, picture of their schools. Instead of engaging in internal assessment, schools use PASS for public relations. Additionally, there is credible evidence that many PASS reviewers fail to apprehend the true measures of an exemplary school, and therefore grade schools by a lower standard. Most of the district superintendents who testified agreed

that PASS reviews are not objective measures of school quality.

Defendants' expert who testified regarding PASS reviews Dr. Christine Rossell, a Professor of Political Science at Boston University, appeared to have little knowledge about how the reviews were actually conducted. Dr. Rossell apparently misunderstand the reviews' scoring system in attempting to aggregate the results of the reviews. Accordingly, her testimony is not probative.

D. Competition for Qualified Teachers

New York City's lack of a sufficient number of qualified teachers is in large measure a function of its lack of competitiveness in the relevant labor market. Unless steps are taken to improve New York City's competitiveness as compared to neighboring school districts, this problem will only get worse in the years to come.

New York City competes in a common labor market for teachers and other college-educated individuals with Westchester, Nassau, Suffolk, Rockland, and, to a lesser extent, Orange and Putnam counties. New York City is at a competitive disadvantage in this labor market, principally because New York City School teachers make substantially less and generally labor under more difficult working conditions than their suburban counterparts.

Figures ranging from 20% to 36% were used by State and BOE officials to quantify the difference in teacher salaries between New

York City and its suburbs. The range on these figures arises from differences in both the experience levels of the teachers being compared as well as the suburbs included in the comparisons. Plaintiffs' expert Dr. Langford conducted an independent analysis which confirms that average salaries of New York City teachers lag substantially behind those of Nassau, Rockland, Suffolk and Westchester for teachers at all levels of experience.

Salary differentials are consistently mentioned in SED and BOE documents as the primary reason qualified teachers choose to work in suburban rather than City schools. These findings were echoed in the testimony of BOE personnel most knowledgeable about hiring. Additionally, Dr. Ferguson's analysis of the Texas data establishes a clear statistically significant association between the performance of students within a school district and the salaries paid to teachers within that school district. Salary differentials hurt New York City in its search for qualified teachers.

New York City's public schools' lack of competitiveness in the relevant labor market can be seen by comparing the qualifications of New York City's public school teachers with those who work in public schools in the counties near New York City.

Dr. Langford conducted a study that suggests that New York City attracts, on average, the least qualified teachers in the relevant labor pool. He compared the qualifications of teachers residing in the

City who teach in New York City public schools with those who reside in the City but teach in public schools in surrounding counties. The latter category was in the aggregate more qualified as measured by certification rates and by failure rates on the LAST certification examination. He also compared the qualifications of teachers residing in surrounding counties who teach in New York City with those who both reside and teach in the surrounding counties. Again, the teachers in this study who taught in the surrounding counties were more qualified on average than those who commuted into the City to teach in public schools.

Dr. Langford also found that, while teachers in both New York City and its surrounding suburbs earn less on average than other college-educated workers, the gap between teachers and other college educated employees in the City is substantially greater than the gap between teachers and other college-educated workers in the suburbs. The court credits Dr. Langford's findings as the result of a well-designed study based on accurate data.

In addition to losing out in the competition for hiring teachers seeking employment, New York City has experienced a small but persistent annual "brain drain" of some of its most experienced teachers to the public schools of surrounding counties.

Plaintiffs presented a number of witnesses who testified that New York City's competitiveness is also hurt by crumbling school

infrastructure (discussed in Section F, below), the location of some schools in high crime areas, the perception of teachers that New York City public schools are unsafe, and large class sizes. The court finds that this testimony is credible.

New obstacles faced by BOE in the coming years in attracting a sufficient number of qualified teachers will include increased attrition in its workforce and the imposition of higher certification standards.

Between the 2000-01 and 2003-04 school years, BOE predicts that it will need 41,105 new teachers due to normal rates of attrition. Additionally, BOE predicts a wave of retirements over the next five years as a large cohort of teachers known as Tier 1 eligibles reach their twentieth year of employment.[20] Tier 1 eligibles may retire after twenty years with a pension totaling 50% of their salary. Adding the predicted retirements of Tier 1 eligibles to normal attrition rates swells the projected number of teacher slots to be filled in the next four years to approximately 54,000. The need to fill between 41,000 and 54,000 slots in four years means that BOE will have to hire between 8,000 and 14,000 new teachers a year, far more than the approximately 6,200 teachers hired annually between 1993-94 and 1999-2000.

BOE will have to fill these teacher slots at a time when it

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[20] See 13 Administrative Code of the City of NY, Title 13, ch 4, § 52.

will be trying to reduce the number of uncertified teachers working in its SURR schools and, by 2003, end its dependence on uncertified teachers entirely. As already noted the Regents have mandated that all schools have only certified teachers on staff by 2003.

Plaintiffs also submitted probative evidence that BOE has increasingly been unable to fill principal, assistant principal and other administrative positions with adequately qualified individuals because of low salaries and poor working conditions. The evidence demonstrates that these administrators play a crucial role in building and maintaining effective schools.

Defendants' attempts to rebut plaintiffs' evidence concerning New York City's competitiveness are not persuasive. First, defendants argue that the relevant salary comparison was not between New York City and the counties surrounding it, but rather between New York City and other large metropolitan areas. By this measure New York City teachers are better paid than their peers in many, though not all, large cities in the United States. This analysis is of limited probative value. The analysis fails to account for cost of living differences among cities. It also assumes a national labor market for teachers. While it is true that BOE recruits out of state (and does a small amount of recruiting in a few foreign countries) no evidence was presented at trial concerning the extent of a national market for teachers.

Defendants also argue that New York City public school

salaries are actually competitive in comparison with the surrounding suburbs' because New York City teachers' contract allows them to work shorter hours than their suburban peers. According to charts presented by Dr. Podgursky, New York City's teacher workday is shorter than that of a representative sample of 16 other school districts in the State. Dr. Podgursky testified that when the shorter day is considered New York City's per hour teacher pay falls in the middle of these 16 districts'.

Dr. Podgursky's analysis is based on the working hours specified in collective bargaining agreements governing the relevant school districts. These collective bargaining agreements were apparently obtained by counsel and there was no testimony at trial that the work hours specified therein have not been superseded or modified by side agreements or amendments.

Even assuming that the collective bargaining agreements relied upon by Dr. Podgursky are accurate, an analysis based purely on hours at school is incomplete. Dr. Podgursky's study does not examine how suburban schools deploy teachers during this longer workday. Moreover, as discussed below, New York City class sizes are higher than those in the surrounding suburbs, which suggests that New York City public school teachers have more students to follow and homework to grade. Finally, with respect to the approximately 68% of New York City public school teachers who reside in the City, Dr. Podgursky's analysis

does not account for the City's greater cost of living. In all events, the allegedly shorter workday of New York City's public school teachers has not provided the City an advantage in the competition for qualified teachers, as the evidence discussed above demonstrates.

Finally, defendants criticize BOE's recruitment efforts and argue that BOE's poor outreach is in part to blame for any shortage of qualified teachers. For example, BOE has lost opportunities to hire qualified teachers by late recruiting. The court finds that, given lower salaries and often difficult working conditions, BOE has done an adequate job in recruiting new teachers. While BOE's efforts prior to 1997 were sometimes haphazard and even counter-productive, it has since engaged in a number of initiatives designed to attract new teachers to its schools. The problem is not BOE's sales pitch, but its product.

E. Curricula

BOE has in place "reasonably up-to-date basic curricula" for the provision of a sound basic education. (86 NY2d at 317.) The problem is not with the content of the curricula, but rather with its implementation. Inadequate teaching and, as discussed below, inadequate school facilities and instrumentalities of learning, have hampered the delivery of curricula.

The failure to assure the delivery of core curricula has been exacerbated by a chronic defunding over the last twenty years of two

non-core subjects that can play an important supporting role in preparing students to become productive citizens: arts and physical education.

The Court of Appeals' definition of sound basic education does not mention arts instruction or physical education. The court interprets this omission -- in conjunction with the Court of Appeals' emphasis on a "minimally adequate" education -- to mean that arts instruction and physical instruction for their own sake are not part of a sound basic education under the State's Education Article.

However, arts education and physical education are important means of supporting the teaching of other subject areas that are part of a sound basic education.

For English language learners and other at risk students visual and performing arts provide a means of expression and achievement which foster self-confidence and positive attitudes about school. A well run arts program can induce students to attend school. Additionally, in the hands of an imaginative teacher the arts can provide a jumping off point for the discussion of important aspects of contemporary society. Examples are numerous and self-evident. Without being too reductive, the production of plays such as Inherit the Wind, Richard II, or A Doll's House can be used to provoke discussion among students concerning the importance of dissent, the organization of government, and the role of women in society. While merely reading the

play in a class may enable such discussions, a production seen by students in other classes would likely add to the didactic impact. Visual art with political content such as Francisco Goya's, Honore Daumier's, and Hans Haacke's can also be used to enhance learning. Arts from non-Western societies can be an effective means of introducing the belief systems of such societies to students in the United States.[21] All these pedagogic uses of the arts can assist schools in molding students into productive citizens. Finally, it is worth noting that an impressive amount of homegrown artistic talent has passed through New York City's public schools. Nurturing such talent may go beyond a sound basic education but certainly it is a public good.[22]

Physical education can have similar effects in supporting a sound basic education. Sports can aid students in acquiring important socialization skills such as cooperation, good sportsmanship, and the importance of practice as a means of achieving mastery. A good sports program may increase school attendance of at risk students.

Both arts and physical education were severely defunded after New York City's fiscal crisis in the mid-1970s. Budget cutbacks

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[21]See, e.g., Art/Artifact, The Center for African Art, 1988.

[22]Among the students who have spent some time in the City's (general, not arts-oriented) public schools are musician/composers George Gershwin, Thelonious Monk, Tito Puente and Sonny Rollins; performing artists James Cagney, Rita Moreno, and Barbara Streisand; playwrights Arthur Miller and Neil Simon; and visual artists Lee Krasner and Maurice Sendak.

affected every aspect of the arts curriculum until the initiation of Project ARTS in 1997. Project ARTS is a collaborative project between the City and BOE through which the City has contributed $150 million to restoring arts education in New York City. Project ARTS, while a step in the right direction, cannot restore the arts curriculum overnight after 20 years of neglect. School space formerly dedicated to the arts has been converted to other purposes, as arts programs atrophied and the City's public schools became increasingly overcrowded. The restoration of an adequate physical education program faces similar obstacles. Over the last twenty years gymnasiums and playgrounds were allowed to deteriorate and/or were converted into instructional space due to overcrowding. The credible evidence at trial demonstrated that arts and physical education need their own dedicated spaces within a school.

The dilapidated state of the City's public school buildings is described in the next section.

F. School Facilities and Classrooms

The second "input" set forth in the Court of Appeals' 1995 decision concerns the physical plant in which a sound basic education is to take place. "Children are entitled to minimally adequate physical facilities and classrooms which provide enough light, space, heat and air to permit children to learn." (86 NY2d at 317.)

A substantial number of BOE's approximately 1100 facilities

require major infrastructural repair to items such as roofs and facades. Many more facilities are plagued by overcrowding, poor wiring, pock-marked plaster and peeling paint, inadequate (or non-existent) climate control, and other deficiencies that speak of a history of neglect.

Though it would appear to be self-evident that such conditions would impede, rather than facilitate, the delivery of a sound basic education, this proposition is difficult to prove or disprove. For the reasons set forth below the court finds that there is a causal link between New York City's poor school facilities and the performance of students, though the strength of that link is difficult to measure.

1. The Condition of City Public Schools

For more than a decade, the parlous physical state of New York City's approximately 1100 public school buildings has been recognized in written pronouncements of the State legislature, SED and BOE. The credible testimony at trial confirmed the bleak picture.

In 1988, the State legislature created the School Construction Authority ("SCA"), a separate authority for the construction of schools, based on legislative findings that decried the "deplorable" condition of the City's schools.

> The legislature hereby finds and declares that the elementary and secondary schools of the City of New York are in deplorable physical condition. Many of the schools are overcrowded, unsafe, unhealthy and

> unusable. The physical deterioration of the schools is a serious impediment to learning and teaching. If the quality of education in New York city is to be improved, the city's schools must be modernized, expanded and restored to a state of good repair.

(New York School Construction Auth. Act L 1988, ch 738 §1 [approved December 19, 1988].)

a. SED and BOE Documents

The creation of SCA did not succeed in shoring up City public schools' crumbling infrastructure. The lack of progress is documented in a series of Master Plans and five-year capital plans developed by BOE during the past decade. In 1989 the Board of Education developed its Year 2000 Master Plan to "determine the level of effort required to restore the New York City public school system to a state of good repair and to modernize and expand it by the year 2000." The Year 2000 Master Plan concluded that "the estimated cost for completely upgrading and modernizing the school system by the 21st Century is $17 billion in current dollars." BOE did not come close to spending this amount by the close of 1999.

When it prepared the Year 2000 Master Plan, BOE also prepared a five year capital plan for the period 1990-94. Unlike Master Plans, which identify all the needs of the system over a ten-year period, the five year capital plans identify only those items that

require urgent attention and can be reasonably funded and fixed within a five year period.

Four years later, BOE again reviewed the state of public school facilities in its Year 2003 Master Plan. As then-Chancellor Fernandez wrote: "The year 2003 Master Plan is a comprehensive needs assessment based on all available technical data and information ... ." The Year 2003 Master Plan stated that the total cost for meeting the system's needs by 2003 was $25 billion in 1992 dollars.[23] The Plan noted that though the previous Master Plan had called for over $17 billion to be spent over ten years, the first five-year capital plan had been funded at only $4.3 billion. The Year 2003 Master Plan reflects a system unable to maintain even an inadequate status quo. The Plan notes:

> Deterioration is occurring at a rate faster than we can save systems, and much of what needed repair back in 1988, as predicted, now needs replacement. The buildings that required modernization back in 1988 that were not modernized in the current capital plan are a tremendous drain on the lump sum and maintenance budgets leaving no funding for the other 500 buildings in need of capital work.

The Year 2003 Master Plan found that 85% of the system needed some kind of capital work, with 424 buildings requiring modernization. The Plan

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[23]Because this cost estimate was presented in current dollars, it tended to understate the true cost over time.

identified a severe impediment to maintaining, modernizing and replacing schools which is discussed at greater length below: overcrowding in New York City public schools.

The next BOE five year capital plan (covering fiscal years 1995-99) described a "crisis on three fronts". On the first front, the capital plan noted that "[t]oday practically every building in the system is plagued by disrepair." The second front described in the plan was a worsening capacity crisis driven by explosive growth in enrollment. The third front was antiquated building interiors inadequate to support current educational needs. While BOE called for $7.5 billion in "barebones" funding, this five year plan was originally budgeted at $3.4 billion, an amount later increased to $4.9 billion. BOE concluded that the inadequate funding of the plan would cause the overall condition of the schools to get worse, not better. Additionally, many of the major modernizations of new schools originally funded for design back in the previous five-year plan were not scheduled for construction during the 1995-99 plan.

In June 1995 a commission appointed by then-Chancellor Cortines issued "A Report of the Commission on School Facilities and Maintenance Reform," known as the Levy Commission Report after its Chair, Harold Levy.[24] The Levy Commission found that the condition of

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[24]Mr. Levy is the current Chancellor. At the time he worked on the Commission he worked at Salomon Inc. and was a relative newcomer to the school system. Other members of the commission were experts in

New York City public school facilities constituted "a school infrastructure crisis." The Levy Commission discovered "shocking conditions in our schools, such as collapsing building facades, thoroughly rusted structural beams, falling masonry, precariously hung windows, and roof gables held together with wire." It found more than 760 buildings had serious problems with their heating and ventilation systems and 424 buildings required wholesale modernization. The Levy Commission also decried the fact that more than a quarter of all public schools, 343 buildings, had coal burning boilers -- a form of heating apparently that is extinct or nearly so in the rest of the City.[25]

These findings were echoed in reports issued by the Regents and SED in 1996 and 1997. The Regents determined that facilities' needs in New York City were greater in dollar figures than those of the rest of the State combined.

b. The United Federation of Teachers' Lawsuit

In 1994, the United Federation of Teachers sued BOE over the

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building management from the private and public sector, financiers, local school board members, academics, and labor/management relations specialists.

[25]Coal fired boilers are difficult to operate and maintain. They must be started up hours before the beginning of the school day, and without proper monitoring provide inconsistent heating. Despite the Levy Commission's recommendation at least 125 schools still had coal fired boilers at the start of trial.

conditions of New York City's public school facilities. The late Justice Friedman's 1998 decision notes that BOE did not contest the deplorable conditions in the City's schools. The decision cited a BOE memorandum that found 237 school buildings had immediately hazardous exterior conditions in need of repair. This list of 237 did not include nearly 150 buildings that had defective roofs or other building code violations. The court ordered the parties to settle a judgment providing for a safety plan. The plan adopted involved the extensive use of temporary scaffolding to safeguard people but did not involve the actual repair of defective conditions. As a result of this judgment close to one third of all school buildings in New York City at the time of trial had sidewalk shedding around their exteriors -- simply to ensure minimal safety, not in preparation for remedial measures.

c. Building Condition Assessment Survey

The most recent comprehensive survey of the condition of New York City public school buildings is the Building Condition Assessment Survey ("BCAS"), conducted between late 1997 and mid-1998. Outside engineers and architects conducted visual inspection of approximately 340 building components identified by BOE. Each component was given a numerical rating: 1 (good), 2 (good to fair), 3 (fair), 4 (fair to poor)

or 5 (poor).[26]

Because not all components of a building are of equal importance, the outside engineers also assigned two additional ratings to each component: "purpose of action" and "urgency of action."

The "purpose of action" ratings give some sense of the importance of a component's condition. In other words a building's parapet wall -- though it may be rated "3" (fair condition) overall -- could have a portion that is severely cracked. Such a wall might be considered a greater priority because of safety concerns than, say, lighting in a gym that is rated "5" (poor condition). The most important purpose of action rating is "life safety" which describes a situation where the physical safety of the children and teachers who use the building is at risk. The second most important is "structural" which means that the condition affects the building's structural integrity. The third category, "regulation code," denotes a condition that is in violation of applicable building codes and regulations. The remaining categories describe less severe conditions.

The "urgency of action" categories describe the time frame

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[26]Good, fair and poor were defined as follows: 1) good means that the component "is sound and performing its function, although it shows signs of use"; 2) fair means that the component "is still performing adequately, but may require preventive maintenance to prevent further deterioration and to restore it to good condition"; and 3) poor means that a component "cannot continue to perform its original function without repairs or is in such a condition that its failure is imminent."

within which work should be done based on the rate of deterioration of the component.

The BCAS results demonstrate that hundreds of New York City public school buildings have serious structural deficiencies. 231 school buildings were identified as having three to four major exterior components ranked with a 3, 4 or 5 coupled with a life safety or structural "purpose of action" rating. BOE has determined that such scores require complete overhauls of these exteriors and there was no evidence at trial tending to cast any doubt on that conclusion. An additional 114 buildings have roofs that must be replaced. Still more buildings have severe problems with their windows and external masonry. Each of these problems concern the integrity of buildings' external "envelopes" which the evidence demonstrates is a prerequisite to buildings' physical health.

Defendants agree that BCAS is the most probative measure of the condition of New York City public school buildings, but they differ in their interpretation of BCAS data. Defendants offered an interpretation of BCAS by their expert witness, Robert O'Toole, who was for ten years the Chief Fiscal Officer in charge of the Tucson, Arizona School District where one of his duties was oversight of school facilities. Mr. O'Toole conducted two analyses based on BCAS data designed to gauge the health of New York City school facilities.

In his first analysis, Mr. O'Toole examined the average

scores of 251 of the approximately 350 building components examined in the BCAS survey. According to Mr. O'Toole these 251 components embraced all the components in the architectural, electrical and mechanical categories, which he described as the most basic categories. He found that the average score among all school buildings for 83.6% of the 251 components was greater than "3," or fair. Only 41 of the components had an average score of 3 or less.

Mr. O'Toole's second analysis attempted to ascertain a per square foot cost for the repairs indicated by BCAS. This study encompassed 921 of the approximately 1400 school structures surveyed in BCAS. Using the cost estimates included in the BCAS, Mr. O'Toole derived square foot costs for repairs in each of the 921 structures. The actual calculation of this per square foot cost, and the person who performed the calculation, were not described by Mr. O'Toole or by any of defendants' other witnesses. Apparently, the figure was arrived at by dividing a school building's square footage by BCAS cost estimates. While this calculation would appear to be a plausible method for deriving a per square foot repair cost, it did not receive the imprimatur of Mr. O'Toole or any other expert at trial. Relying on BCAS, Mr. O'Toole opined that per square foot costs of $100 or less indicated a building that was in "fair" condition. Eighty-nine percent of the buildings in his survey by this measure were in fair condition.

Mr. O'Toole concluded that these two analyses reinforce each

other in supporting his ultimate conclusion that the vast majority of New York City public school buildings are in fair condition, requiring at most only preventive maintenance.

Mr. O'Toole's analyses are not persuasive.

Crucially, Mr. O'Toole's first analysis made no distinction among the 251 components measured. It made no attempt to weight each component's centrality to a school's functioning and does not attempt to account for BCAS' "purpose of action" and "urgency of action" ratings. It did not reveal which 41 components had an average less than three. An analysis based on the averages of components, standing alone, is of no probative value. Numerous schools have at least some components that score below the average. Depending on the components in question, a school with a handful of components below "fair" may have a severely compromised infrastructure. The crucial analysis, which was presented by plaintiffs, is what BCAS reveals about individual schools, not about individual components.

With respect to Mr. O'Toole's second analysis, plaintiffs point out that his cost per square foot exercise is based upon only 921 of the approximately 1400 structures included in BCAS. Mr. O'Toole testified that he collected these 921 structures by cross-referencing BOE and SED files regarding cost and square footage, respectively, and that the failure to match all the buildings in the BCAS survey was a function of the incongruence of the two files, not of any selection on

his part. From this he concluded that his sample of school buildings was random. Plaintiffs offered no evidence to rebut this conclusion. Nonetheless, the incompleteness of Mr. O'Toole's survey does cast some doubt on his analysis. There was no testimony that gaps in discovery create a random sample. It is at least plausible that the lack of congruence between BOE and SED files may have been caused by some factor that was not random.

Another weakness of this analysis was that the actual calculation of the repair cost per square foot for each building was not set forth explicitly by defendants.

Finally, Mr. O'Toole's "cost per square foot" analysis was compromised by his reliance on cost estimates included in the BCAS, rather than on more accurate refinements to those cost estimates later generated by BOE for inclusion in its 2000-2004 five year plan.

d. Old Buildings and Changing Needs

In addition to the major structural deficiencies described above, New York City public school buildings contain antiquated science laboratories and wiring, heating, and air conditioning systems. In large measure this is a function of the buildings' age. Most City school buildings were built in an era when there was no need for computers, summer school, or more than rudimentary laboratory equipment. More than half of the buildings in the system are more than 58 years

old.

Science labs are often obsolete or absent altogether in City public schools. According to BOE figures a minimum of 31 high schools lack a science lab of any description, leaving over 16,000 high school students without access to this crucial resource. In schools that do have labs, a single lab must be used for biology, chemistry and physics classes. Each subject area involves different equipment, and the near-constant use of labs in schools can restrict the complexity of experiments performed in the lab.

Inadequate wiring can impede a school's ability to offer computer education and other initiatives. Computers also require air conditioning to work properly during the warmer months.

The lack of air conditioning can also take its toll on teachers and students during the summer session recently inaugurated by BOE. Only 7344 out of approximately 35,000 classrooms in the system have air conditioning. In addition, there was credible evidence that existing air conditioning units often do not function properly.

The evidence demonstrates that New York City's public schools have a substantial backlog of interior repairs. New York City's schools are plagued by the disrepair of such basic amenities as lights, toilets, plaster and paint.

Finally, as discussed in subsection G below, overcrowding in the City's public schools is both a cause of facilities' deterioration

and an impediment to remedial measures. Overcrowding has necessitated the use of important resources such as libraries, music and art rooms, and gymnasiums as classrooms. Overcrowding makes it difficult to conduct proper repairs without severe displacement of students.

2. The Causal Link Between Inadequate School Facilities and Student Outcomes

Plaintiffs argue that there is no need to inquire into the causal link between inadequate school facilities and student outcomes, arguing that minimally adequate school facilities are an entitlement under the Court of Appeals' 1995 decision. This court disagrees. The Court of Appeals' 1995 decision states that the adequacy of school facilities is to be measured by whether they "permit children to learn." (86 NY2d at 317.) Accordingly, this court must examine the effect of poor physical conditions on students' ability to learn.

The State legislature, SED and BOE have all concluded that the City's decaying and decrepit school facilities impede learning but have not attempted to quantify the negative effect of crumbling school buildings on student performance.

Plaintiffs presented numerous SED and BOE witnesses who testified that the physical plant of a school can have a marked effect upon learning. In the case of absent or obsolete science labs the connection is obvious. Students cannot learn a subject without the requisite tools to do so. Similarly, computer science classes, and the

use of computers to support other subjects, cannot happen in schools that have antiquated wiring. The evidence is conclusive that the numerous City school buildings with these deficiencies impede learning.

Plaintiffs also offered probative evidence that the totality of conditions in crumbling facilities can have a pernicious effect on student achievement. As former SED Commissioner Thomas Sobol testified:

> If you ask the children to attend school in conditions where plaster is crumbling, the roof is leaking and classes are being held in unlikely places because of overcrowded conditions, that says something to the child about how you diminish the value of the activity and of the child's participation in it and perhaps of the child himself. If, on the other hand, you send a child to a school in well-appointed or [adequate facilities] that sends the opposite message. That says this counts. You count. Do well.

The court finds that this evidence is credible as it is based on the experience and intuition of knowledgeable educators. However, this evidence does not attempt to gauge the magnitude of the effect of school facility condition upon student performance.

Unlike plaintiffs, defendants attempted to measure empirically the effect (or lack thereof) that school facilities have on student performance. Defendants offered statistical analyses performed by their expert, Dr. Hanushek, which purport to show no link between a school's disrepair and the test score performance of its students.

Dr. Hanushek first examined whether school building

conditions, as measured by repair costs per square foot, in high and moderate poverty schools were related to student scores on standardized reading and math tests. This analysis tended to show that higher-performing students in elementary and middle schools are clustered in schools with high per square foot repair costs, i.e. those in worse condition. Dr. Hanushek thus concluded that facility repair needs do not cause performance differences among students. Dr. Hanushek further analyzed all New York City public elementary schools using, among other variables, per square foot repair costs and something called "facility scores" allegedly derived from the BCAS rating system. In these regression analyses Dr. Hanushek attempted to control for socio-economic deficits of a school's students by accounting for various factors in each of the schools including the median income of parents, the Limited English Proficiency rate for students, and rate of special education participation. He again reached the conclusion that facility disrepair is not causing negative student performance.

Dr. Hanushek's statistical analyses on this question are of limited probative value. First, the underlying data regarding per square foot repair costs and facility scores is questionable. Dr. Hanushek testified that he did not compile this data, and the court admitted these analyses subject to the establishment of a foundation by another witness. Defendants' attempts to do so were both convoluted and incomplete.

Defendants at least arguably established that the per square foot repair costs were calculated at the direction of Mr. O'Toole and then provided to Dr. Hanushek through defendants' counsel and another defense expert. However, no witness laid a foundation for the facility scores data. Accordingly, to the extent that they rely on facility scores Dr. Hanushek's regression analyses have no probative value. It appears that facility scores are compilations of BCAS scores (1-5) for building components, without any weighting assigned to the various components. Therefore, for the reasons discussed in subsections F(1)(c) & (d) above, even if the court were to consider them, facility scores would not adequately measure facility conditions.

The per square foot repair costs used by Dr. Hanushek, are compromised to an unknowable degree by Mr. O'Toole's use of cost estimates included in the BCAS, rather than on more accurate refinements to those cost estimates later generated by BOE for inclusion in its 2000-2004 five year plan. Less important, but still a source of doubt, is defendants' failure to set forth how they calculated per square foot costs. This calculation appears to have been a simple division of a building's square footage by its BCAS repair cost estimates, but defendants failed to establish the validity of this calculation.

Dr. Hanushek's regression analysis is hampered by its time frame, which encompassed a single school year. As stated above, education is a cumulative undertaking. A student's performance cannot

be measured by the resources he was provided in a single year, but rather should be measured by the resources provided over a number of years. Accordingly, longitudinal studies of student performance over a period of years are more probative than one-year snapshots. Perhaps it could be argued that because Dr. Hanushek's analyses concerning school facilities encompassed the performance of all the students in a given school, it thereby provided a kind of compressed longitudinal study wherein the performance of students in different grades in a given school stands in for a study of a cohort of students as they progress through grades over multiple years. However, defendants did not make this argument and the court finds no support for it in the record.

For the reasons stated, the physical condition of New York City's schools has a negative effect upon the academic performance of the City's public school students. However, the magnitude of that effect is unclear from the evidence at trial.

G. Overcrowding and Class Size

The poor physical state of New York City public school facilities coupled with an influx of new students into the system in the late 1980s and the first half of the 1990s has resulted in severe overcrowding in many of its schools. Overcrowding, which exists at every level, is most severe in elementary and high schools. Overcrowding has a negative effect on student achievement.

Public school enrollment grew rapidly in the 1950s and '60s and peaked in 1971 at approximately 1,150,000 students. Between 1971 and 1982, enrollment shrank by approximately 220,000, though some districts did experience expansion during this period. New York City's fiscal crisis in the mid-1970s caused the City to shed a number of school buildings, decrease the money spent on maintaining school facilities, and slow the creation of new schools.Thus the City was ill-prepared when enrollment began to increase in 1983 and exploded in 1989. In the five years from October 1988 to October 1993, enrollment grew by close to 80,000 students and reached a total of 1,016,000 students. Rapid growth continued until 1996, when it slowed somewhat. Enrollment in the 1999-2000 school year was 1,102,000. The credible evidence at trial indicates that steady growth of the system will continue. While projections generated by the Grier Partnership, consultants to BOE, indicate that enrollment will level off and begin to drop in the middle of the current decade, recent data on birth rates and immigration that post-dates the Grier Partnership report cast doubt on its predictions. In any event, the evidence indicates that system capacity lags far behind existing enrollment.

BOE measures building utilization annually in its Enrollment Capacity Utilization ("ECU") report. The most recent ECU report in evidence was for the 1998-99 school year. The report describes the formulas by which BOE determines the capacity of each school. Because

buildings are used differently based on level and type of schooling, BOE uses different formulas to determine the capacities of elementary schools, middle schools, high schools and citywide special education.

The utilization numbers reflect widespread overcrowding. Almost 60% of all elementary schools, serving 63% of the City's elementary school students, and 67% of high schools, serving 70% of the City's high school students, are overcrowded under the formula used by the ECU report. Overall, the numbers indicate that approximately 59% of New York City public school students attend overutilized schools. Overcrowding tends to plague certain school districts more than others. For example all of the Queens community school districts are overutilized, and five of seven are operating in excess of 110% of capacity.

Overcrowding is even worse than indicated above because the ECU formulas actually overstate schools' capacity. This inflation occurs because the formulas adjust for overcrowding by adding to school's capacity non-classroom space if such space is in fact used for classrooms. For example if a crowded school is forced to convert its gymnasium or auditorium into classroom space, the capacity formula indicates increased capacity. Second, there was credible testimony that the amount of space allocated to each pupil is too small, failing to allow sufficient room for a teacher's desk, for a set-back for student desks sufficient for all students to view the backboard, or for space

for educational tools such as computers. Additionally, the formula assumes class rosters larger than what is optimal from a pedagogical standpoint as measured by State and federal goals.[27]

Overcrowding has numerous negative consequences for students. Specialized spaces in school, such as gymnasiums, science labs, libraries and art rooms must be taken over for full-time classroom space thereby depriving students of the programs intended for those rooms. Marginal spaces in a school building, including undersized offices, hallways, and storage space, have been converted to classrooms.

Many school administrators have had to resort to the use of trailers and other temporary structures. Such structures outside the main school building isolate teachers and students from the rest of the school and often occupy much-needed playground space. The students taught in the temporary structures still must use the main school building's cafeteria and gymnasium. Temporary structures are often difficult to heat and they frequently lack sufficient power for computers.

Some schools, particularly in Queens, have been forced to employ extended day and multishift schedules to relieve overcrowding.

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[27]Mr. O'Toole opined that the ECU formulas might understate capacity. His testimony was based on suppositions that ignored valid educational concerns regarding use of classroom and school space. Accordingly, this testimony was not persuasive.

SED has granted waivers to seven Queens schools, with a total enrollment of approximately 25,000 students, to operate two shifts of six periods a day, instead of the State-mandated seven. This response reduces students' school day, obviously a less than optimal solution. Students at risk in particular often need a *longer* than usual school day -- more "time on task" in current educational jargon. School buildings become extremely crowded during the overlap of the two shifts, and the educational program is distorted, resulting in anomalies such as 150-student gym classes.

Overcrowding often necessitates the creation of multiple lunch shifts. There was credible testimony that such staggered lunch shifts over the day can have a negative effect on students who must take lunch early in the morning or late in the afternoon. It would not be news to generations of school teachers that hungry students find it difficult to focus in the classroom.

For these reasons increased utilization of existing school facilities is not a satisfactory solution to overcrowding.

1. Class Size

The most significant negative impact of overcrowding is its effect on class size. In schools that are bursting at the seams there is little or no room to allocate the necessary space to reduce the number of students per class.

The evidence demonstrates that class size has an effect on student outcomes, and that smaller class size can boost student achievement, particularly among at risk children. The advantages of small classes are clear. A teacher in a small class has more time to spend with each student. Fewer students mean fewer administrative tasks for each teacher. Student discipline and student engagement in the learning process improve in smaller classes.

The federal government, SED, and BOE all agree that smaller class sizes help students to learn, and all have initiated programs to reduce class size. Although the federal and State programs differ slightly in the specifics and methods of implementation (the federal program seeks to lower class size in grades 1-3 to an average of 18 students, while the State program seeks to lower class size in grades K-3 to an average of 20 students) their goals are similar: to reduce class size in the lower grades to 20 students or fewer. The court also finds credible the testimony of the numerous New York City district superintendents called by plaintiffs who were unanimous in their assessment of the advantages of smaller classes.

The positive effect of smaller classes on student outcomes is also documented by statistical evidence. Plaintiffs' expert Jeremy Finn, a professor of statistics at SUNY Buffalo, testified at length about the Tennessee Student Teacher Achievement Ratio ("STAR") project, a landmark study of the effect of class size on student achievement.

The STAR project was conducted in Tennessee with cohorts of students in 79 schools. The students were randomly divided into three types of classes: 1) small classes of between 12 and 17 students with one teacher, 2) regular-sized classes of between 22 and 26 students with one teacher, and 3) regular-sized classes with one teacher and one teacher's aide. Teachers were randomly assigned to the classes. The controlled part of the study followed the students that started kindergarten in 1985 through their graduation from third grade. Students enrolled in the STAR program were tested at grades K-3. The students were tracked after they left third grade to see how they performed as they moved through elementary and secondary school. Nearly 50% were receiving free lunch, an indicator of low economic status, and approximately one-third were minority, almost entirely African-American.

The STAR project demonstrated that there is a significant causal relationship between reducing class size and improving student achievement. The effects were positive and durable, particularly for students who started in the smaller classes in kindergarten and stayed in them for 3-4 years. Such students continued to perform at a higher level on average than those students in the large class sizes. To articulate these differences, Dr. Finn used a measure called "months of schooling," which as its name suggests, equates a child's achievement level to the number of months of schooling a child with that achievement level normally would have. In each analysis, the children in small

classes outperformed the students in the large classes by this measure.

Dr. Finn noted that the presence of teachers' aides was found not to affect student performance in the larger classes. However, he noted that the teachers' aides in the STAR study were persons - parents mostly - who signed on only for the duration of the study. He opined that teacher's aides with better training and a higher degree of professionalism could have a positive effect on student performance.

The benefits enjoyed by the children in the smaller class sizes in K-3 continued even after the STAR program ended in third grade. Of the thirty statistical analyses of STAR students taking tests in grades 4 through 8, 29 yielded statistically significant differences between the children who had been in small classes compared to the children in the large classes. Significantly, the advantages to minority students were greater than those exhibited by all students.

The STAR project is considered especially probative by experts in the field because it was conceived as an experiment, rather than as a simple observation. Researchers are able to draw conclusions regarding the causal relationship between class size and student performance because of the STAR project's random assignment of children and teachers, and because of its isolation of two variables: class size -- and, to a lesser extent, the presence of teachers' aides.

The STAR project has been invoked by New York State and the

federal government as justification for their efforts to reduce class size in the early grades.

Defendants' expert, Dr. Hanushek, presented some evidence that the value of the STAR project was undercut by student transfers in and out of the schools participating in the project and by some schools leaving the project altogether. Dr. Hanushek conceded on cross examination that these transfers did not demonstrate that the STAR results were unreliable. The court finds that Dr. Hanushek did not demonstrate that the transfers undermine Dr. Finn's conclusions regarding the STAR data. Dr. Hanushek did provide some probative evidence from California that that state's attempt to reduce class size in a very short time frame actually hurt student performance. According to Dr. Hanushek California may have hired too many unqualified teachers in order to speed the reduction of class sizes. This evidence does not undermine the STAR results. At most, it suggests that class size reduction must be carefully planned and coordinated with the hiring of qualified teachers.

New York City's class sizes have been consistently higher than the State average and higher than the 18-20 student maximum that experts regard as the ceiling necessary to obtain the benefits seen in the STAR project. Dr. Finn presented the most comprehensive description of class sizes in New York City. As of October 31, 1998, average general education class sizes in New York City were: 23.8 for

kindergarten, 25.12 for first grade, 24.97 for second grade, 25.46 for third grade, 27.34 for fourth grade, 28.05 for fifth grade, 27.62 for sixth grade, 28.13 for seventh grade, and 28.72 for eighth grade.

These averages of course mean that a significant portion of New York City's school children are in much larger classes than the average. Thus, 27.1% of all students in classes K-3 (or 89,139 children) were in classes of 28 or more; 66.6% of all students in fourth and fifth grades (or 102,347 children) were in classes of 28 or more; and 72.3% of the students in sixth through eighth grade (or 148,869 children) were in classes of 28 or more.

New York City class sizes are consistently higher than the State averages at every level, including high school, for every year that data are available for the last 20 years. This data is contained in the April 1999 "655 Report," the annual report submitted by the Regents to the governor and the legislature (see Education Law § 215-a). For example from 1980-81 to 1997-98 the average kindergarten sizes in the City fluctuated between 24.2 and 25.4, while the statewide average (including New York City) fluctuated between 21.3 and 22.4, an average difference of at least 3 students. In the same time span, class size for grades 1-6 ranged between 27 and 28.3; statewide the range (including New York City) was between 23.5 and 24.2, a difference of nearly four students. Similar averages obtain for middle and high school classes. Obviously, the statewide averages quoted in the 655

Report are inflated by the inclusion of New York City's students. The differences are more stark when the City is compared to the rest of the State.

In sum, large class sizes in New York City's public schools have a negative effect on student performance. Conversely, smaller class size -- particularly classes with a maximum of 18-20 students in grades K-3 -- can have a positive effect on student performance, particularly that of at risk students.

Defendants argue that class size results from the way BOE deploys its teachers, and they argue that this deployment is beset by inefficiencies. Defendants point out that New York City's public school teacher student ratio in the 1999-2000 school year was one teacher for every 14.1 students.[28] This figure is substantially lower than the average for large school districts around the nation. The City's teacher student ratio has declined in recent years, from 1 to 16.5 in 1997-98, to 1 to 15.3 in 1998-99 to 1 to 14.1 in 1999-2000. Defendants also argue that BOE employs thousands of school-based certified professionals, such as principals, assistant principals, attendance teachers, school psychologists, guidance counselors and social workers who may assist teachers in the instructional program.

Defendants assert that these teachers and potential teachers

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[28]This figure is derived from figures published in the BOE Chancellor's 2000-01 Budget Request.

could be put to more efficient use. Defendants claim that currently only approximately 3 hours, 45 minutes of the 6 hour, 20 minute teacher workday is spent on classroom instruction. It is true that the teachers' current contract provides that high school teachers must teach 25 of the 35 periods per week that they are expected to be present in school. For the remaining ten periods teachers are assigned non-instructional activities. According to defendants, City teachers' workday is shorter than the average workday in a sample of 16 other school districts in New York State, and in several large cities scattered around the country. Finally defendants argue that BOE has a large number of teachers' aides on payroll who add little or nothing to student productivity, and that money spent to pay these workers could be better used to pay for the salaries of more teachers.

The court finds that teacher student ratios are not the relevant benchmark of adequacy. No matter how many teachers are on staff, class size cannot be reduced without expanding classroom space. Defendants propose that school days can be extended in order to accommodate more classes. As noted above, this "solution" has not worked in the schools where it has been tried. Another solution proposed by defendants is to place two teachers in overcrowded classrooms. The evidence at trial was equivocal as to whether this staffing model has any effect on student outcomes.

That said, defendants' evidence concerning BOE's inefficient

deployment of teachers and other personnel has some validity. It is no secret that some personnel in the public school system are not working as hard or as efficiently as they could. Both the City Comptroller and the Citizen's Budget Commission conducted analyses in the last five years arguing that BOE can and should insist on productivity gains from the City's public school teachers.

While space constraints might make it difficult to utilize underused teaching staff to reduce class size, there are certainly other arguments for productivity gains. More efficient use of teachers' time could in theory reduce the number of teachers needed to cover all classes. Additionally, while in theory teachers' aides could assist student productivity, there was evidence that frequently these jobs are sources of patronage filled by individuals who add little to education. Personnel costs are BOE's single largest budget item and savings in this area could be used to address the system's chronic needs in other areas.

On the other hand, legitimate questions about the magnitude of this inefficient deployment are raised by the evidence. Neither the Comptroller's nor the Citizen Budget Union's analyses offered by defendants account for the greater amount of time that New York City School teachers must spend grading work and completing administrative tasks because of larger class sizes. Additionally, as discussed at length below, there are a variety of factors that have increased student

placements into special education, especially into its most restrictive (and heavily staffed) settings. This phenomenon is caused in part by factors outside BOE's control. Smaller class sizes are mandated in special education classes, creating a lower teacher student ratio. Excluding special education teachers, the general education teacher student ratio in 1997-98 was 1 to 18.04; in 1998-99 it was 1 to 17.03.

Finally, New York City has had a difficult time competing with neighboring school districts for qualified teachers with the currently configured New York City public school work day. In the next few years, as the rate of retirements among City public school teachers is likely to increase, the competition for qualified teachers is likely to go up as well. If defendants are correct that the City's public school teachers have a shorter workday, that fact plausibly may be a competitive advantage that BOE may use to attract teachers. Conversely, a longer workday could plausibly hurt the City's competitiveness.

H. Instrumentalities of Learning

The third "input" set forth by the Court of Appeals' 1995 is "minimally adequate instrumentalities of learning such as desks, chairs, pencils, and reasonably current textbooks." Given the Court of Appeals' insertion of "such as" this court interprets this list to be non-exhaustive.

The evidence demonstrates that for nearly two decades BOE has struggled to provide adequate instrumentalities of learning to its students.

1. Textbooks

BOE has not maintained systematic records of the textbooks used by its students from year to year. However, there was probative evidence that at least since the early 1980s New York City has endured a chronic shortage of adequate textbooks. In recent years, primarily because of an influx of funds from the New York City Council, BOE has been able to significantly upgrade City public school textbooks. Beginning in 1996-97, the City Council allocated $50 million over four years. Community school districts actually were unable to spend all of their textbook funds in the ensuing three school years.

At the present time the quantity and quality of textbooks used by students in the City's schools satisfy minimal adequacy. However, education is cumulative, each year building upon the last. While the present textbook allocation is adequate, it cannot remedy the negative effects of past shortages. Moreover, there is no structural funding mechanism that gives any assurance that the recent spike in textbook funding will continue.

The primary source of State funding for textbooks is the New York State Textbook law ("NYSTL"). In the 1995-96 school year the NYSTL

allocation was $35 per student, an amount that the New York City Comptroller found in a 1996 report to be inadequate. Two years later, in 1997-98, the allocation was increased by $1 per student to $36. The allocation crept up to $41 per student in 1999-2000. The NYSTL must cover the costs of numerous types of instructional materials, not just hardcover textbooks. While the evidence at trial demonstrated that hardcover textbooks must be replaced every 3-4 years, other materials known as "consumables" are used up in a year. The NYSTL allocation is inadequate to cover the cost of all these materials.

2. Library Books

The books in New York City public school libraries are inadequate in number and quality. New York City has historically lagged behind the rest of the State in the number of library books per student. The State's allocation for library materials -- which includes books, software, periodicals and videotapes -- has been $4 per pupil since 1994, despite SED's requests for higher funding. This allocation is insufficient to assure adequate libraries in the City's public schools.

3. Classroom Supplies and Equipment

Plaintiffs presented substantial evidence that New York City public schools have in the last two decades suffered from inadequate classroom supplies and equipment. Science classes have suffered from

a shortage of lab supplies such as beakers, Bunsen burners, beam balances, and microscopes. In the same period schools have suffered from a lack of basic supplies such as chalk, paper, art supplies, and, in some schools, desks and chairs. There was little except anecdotal evidence concerning the current state of such supplies. Accordingly, the court cannot make a finding concerning whether New York City public schools are at present providing a minimally adequate supply of such materials.

4. Instructional Technology

For at least a decade it has been the position of SED that instructional technology -- computers, related hardware such as printers and modems, and appropriate software -- is an essential resource for students. Similarly BOE has concluded that "[o]ur schools must prepare all students to succeed and prosper in the information age and the new global economy, where access to information and ownership of knowledge will be defining characteristics of 'the competitive edge.'"

The omnipresence of computer technology in the economy undergirds SED's and BOE's emphasis on instructional technology. While computer proficiency is an important skill that can lay a foundation for a career, it also allows students to use an array of instructional software and research tools to enhance their study of other subjects. In addition to their importance to the economy, computers and the

Internet have become important conduits of public discourse. Today the Internet has taken its place besides other media outlets as a resource used by voters. For these reasons instructional technology is a core "instrumentality of learning" embraced by the Court of Appeals' template.

For the last decade New York City public schools have failed to provide adequate instructional technology to their students. This inadequacy has been thoroughly set forth in SED documents, particularly the 655 Reports. In 1997, districts in the State outside of New York City had twice as many computers per 100 students as did the City. New York City has fewer computers than districts in the rest of the State, and its computers tend to be older and less capable of handling sophisticated educational software. As noted above, the age and antiquated wiring of New York City's school buildings has impeded the introduction of computers into the classroom. An additional impediment has been inadequate professional development to help teachers understand and use new instructional technology.

Defendants correctly point out that in the last three years there has been an infusion of funds devoted to increasing schools' use of instructional technology. However, these funds have failed to remedy New York City public schools' technological deficit. Moreover, it is unclear whether funding for technological improvements in New York City public schools will continue.

During the 1997-98 and 1998-99 school years, the City's public schools received $150 million in City and private funding for instructional technology under a program called Project Smart Schools. Project Smart Schools was intended to lower the student to computer ratio in elementary, middle, and high schools. Only the needs of middle schools were addressed by the time the money ran out. A large portion of Project Smart Schools funding had to be spent on rewiring old school buildings. As of the time of trial, there were no funds under this program available to address the needs of high schools, elementary schools, or special education classes. In recent years BOE has also received funding for technological improvements from the City Council. However, this funding is not reliable as it is wholly dependent on revenues from the recently robust City economy.

The City has also seen an influx in federal funding in recent years, primarily through the "Universal Service Fund," known as the "E-Rate" program. E-Rate is a spend-to-get program which provides discounts to schools for certain telecommunication charges. It does not provide discounts for computers or software; it solely provides discounts for the purchase of telecommunication infrastructure. The E-Rate program has assisted BOE in increasing schools' ability to connect to the Internet. However, because it only addresses telecommunications technology, it is not a panacea for all of the public schools' technology woes. Additional E-Rate discounts have shifted in ways that

have impeded BOE's planning.

Defendants also argue that a survey of the quantity of computers updated in March or April 1999 showed a ratio of one computer for every ten students, which compares favorably with nationwide ratios. However, Elspeth Taylor, BOE's Chief Information Officer from 1996 through 1999, testified that this survey found that approximately 20,000 of the total of 109,341 computers in New York City public schools were essentially obsolete and that an additional number of aged "486s" and Apple Computers were too weak to power recent operating platforms, Internet, or CD-ROM applications. While defendants argue that these two categories of computer are both described as "new generation" by SED's 1999 655 Report, this definition appears to be used in the 655 Report for assessing computers as of Fall 1997. Fall 1997 to March/April 1999 is a very long time in the annals of computer technology.

I. Outputs: Graduation/Dropout Rates and Test Scores

Previous sections have set forth the shortcomings of the "inputs" provided to students in New York City's public schools, such as the quality of teachers, the condition of facilities, and the amount and nature of the "instrumentalities of learning" available in the schools. In its 1995 decision, the Court of Appeals also directed this court to examine the "output" of public schools, i.e. student performance.

The most telling measures of student performance are the percentage of students who actually graduate and the bundle of knowledge and skills that they possess on the day that they graduate. Accordingly, the court examines below evidence concerning: 1) how many students graduate on time, 2) how many drop out, 3) the nature of the degrees graduates receive, and 4) the performance of those who pursue higher education at the campuses of the City University of New York.

The court also finds that the results of State and City evaluative exams taken from grades K-11 are of some probative value in measuring whether New York City's schools are imparting the requisite minimum educational skills that undergird a sound basic education. However, the court's analysis of these test results is informed by the Court of Appeals' admonition that test results should be used "cautiously as there are a myriad of factors which have causal bearing on test results." (86 NY2d at 317.)

By each of these output measures New York City public schools fail to provide a sound basic education.

1. Graduation/Drop Out Rates

In recent years, more than 60,000 students enter ninth grade in New York City public schools annually.[29] Consistently since the late

[29]This number includes only those students entering ninth grade for the first time and does not include individuals who have been left back.

1980s, approximately 30% of these students drop out and do not receive either of the two types of diplomas conferred by SED. Many who do graduate take more than four years to do so. Only 50% of New York City Public School students who entered ninth grade in 1996, and who stayed in school, made it to twelfth grade in four years.[30]

Since the late 1980s, approximately ten percent of ninth graders ultimately received a general equivalency degree ("GED"). The evidence at trial demonstrated that a GED recipient has not received a sound basic education. The requirements for a GED are too minimal to provide any assurance that a student has been prepared for the duties of productive citizenship. Plaintiffs' expert, Dr. Henry Levin, testified concerning studies of the earning rates of GED recipients compared to those of high school graduates and dropouts. He concluded that "the job prospects and lifetime earnings of the GED certificates is considerably less than the high school graduate. In fact, it is equal or close to that of high school dropouts." Dr. Levin also testified that the armed services do not accept GED recipients, and he noted that GED recipients who attend college have a completion rate of approximately 2%. Dr. Levin's testimony is credible. For purposes of evaluating the effectiveness of the City's schools, GED recipients are

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[30]Ninth graders have a maximum of seven years in which to graduate; at age 21 students are no longer entitled to attend high school.

the functional equivalents of dropouts.[31]

The remaining 60% of ninth graders who are able to graduate in four to seven years receive one of the two diplomas recognized by SED: 1) a "local" diploma, and 2) a Regents diploma. Students choose whether to take the examinations for one or the other of these diplomas. A local diploma is awarded to students who pass a series of Regents Competency Tests ("RCTs") which represent the minimum statewide requirements for graduation. As originally conceived the purpose of the RCTs was to identify those in need of remediation. Passing the RCT in reading requires only reading comprehension at the eighth to ninth grade level. The math examination tests approximately sixth grade mathematics.

Defendants argue that a graduating student's passing grade on the RCTs is the surest indication that he received a sound basic education. The court rejects this contention. The RCTs do not test the basic literacy, calculating and verbal skills that should be imparted to all high school graduates.

Because of the low level of academic achievement measured by the RCTs, SED has decided to phase out the local diploma option by 2004. As of 2001, all would be graduates must take an expanding number of the

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[31]The court does not intend to disparage the achievements of individual GED recipients. A GED may constitute a significant achievement and an important step toward productive citizenship for incarcerated people, former addicts, and others.

five Regents examinations necessary to receive the second type of diploma, the Regents diploma. These examinations are more rigorous than the RCTs and measure whether students have met the new Regents Learning Standards.

Historically, of the approximately 60% of ninth graders who ultimately received a Regents or local diploma, the vast majority received a local diploma. In recent years, less than 12% of all ninth graders have eventually received a Regents diploma. The following data are illustrative:

	1994	1995	1996
Local Diploma	50.2%	47.4%	46.7%
Regents Diploma	9.9%	11.3%	11.7%
GED	10.5%	11.2%	10.8%
Drop Out	29.4%	30.0%	30.7%

The class of 1996 was the last class for which complete data were available at trial, given the possibility that students entering the ninth grade may receive a diploma in four to seven years. However, the proportion of students who received local and Regents diplomas has remained relatively constant. From 1996 through 1999, the number of local diplomas awarded every year has hovered between 20,928 and 22,211. The number of Regents diplomas awarded to City public school students

has been between 7,134 and 8,795, though the trend has been toward a slightly higher proportion of Regents diploma recipients.

In sum, in recent years approximately 30% of ninth graders in New York City public schools did not receive a high school diploma of any kind by the time they reached 21 years of age. Roughly ten percent of ninth graders obtained a GED -- a certificate that is conferred upon a demonstration of marginal skills. Approximately 48% ultimately received a local diploma -- which measures the skills expected of sixth to ninth graders, not those of high school graduates. The remaining 12% or so obtained a diploma that actually demonstrates that they have received a sound basic education. This evidence depicts a public school system that is foundering.

Defendants argue that they cannot be blamed if students choose to drop out. It is certainly true that in individual cases there is little that can be done to keep a troubled child in school. However, when 30% of students drop out without obtaining even a GED serious questions arise about system breakdown.

It could also be argued that students have historically been given a choice whether to seek a local or a Regents diploma, and that students who choose the less rigorous battery of examinations may well be capable of more advanced work. While this argument is impossible to test, the experience of City public school graduates at the campuses comprising the City University of New York is instructive. In recent

years approximately 80% of City public school graduates who entered CUNY required remedial help in such basic areas as reading and mathematics. Roughly 50% needed remedial help in more than one area.

Defendants also argue that the State is required only to provide the *opportunity* for a sound basic education, that it has done so, and that students' failure to seize this opportunity is a product of various socio-economic deficits experienced by the large number of at risk students in New York City public schools. The court agrees that the State must only provide the opportunity for a sound basic education, but this opportunity must be placed within reach of all students. The court rejects the argument that the State is excused from its constitutional obligations when public school students present with socio-economic deficits.[32]

Finally, defendants speculate that the poor progress of the City's ninth graders is caused at least in part by students who enter the New York City public school system for the first time in the ninth grade. If such students are ill-prepared when they enter the system, that lack of preparation obviously cannot be blamed on the New York City public schools. This argument has as its premise one that is shared by the court: that education is cumulative, and that a student's performance in high school is affected by what he learned in elementary

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[32]Other state courts have reached a similar conclusion (e.g. Abbott v Burke, 119 NJ 287, 373-4, 575 A2d 359 [1990]).

and middle school. Defendants are correct that the evidence at trial did not include any data on the percentage of drop-outs, GED recipients, and local diploma recipients who had not attended public school in New York City prior to ninth grade. However, City public school students' scores on standardized tests in elementary and middle school evinces the poor performance of City public schools before high school, as well. Accordingly, the slow and incomplete progress of the City's ninth graders as they make their way through high school cannot be attributed solely to new students. Student performance on standardized tests is discussed in the next section.

2. Standardized Tests

The results of evaluative tests administered by the State and by BOE to elementary and middle school students -- "cautiously" analyzed per the Court of Appeals' admonition -- are probative evidence of the poor quality of education provided by New York City public schools.

The first test given youngsters entering New York City public schools before the third grade is the Early Childhood Learning Assessment ("ECLAS"). The ECLAS is not intended to be an achievement test. It is more of a diagnostic tool to see what children know and where they need help. The results of the ECLAS demonstrate what has been noted above: that students entering New York City public schools lack such skills as knowledge of the alphabet, sound/symbol

relationships, familiarity with counting and numbers, and vocabulary and concept development.

Achievement tests begin in the third grade. Throughout elementary and middle school students take an array of such tests, some of which are given statewide and are administered by SED and some of which are City-specific and administered by BOE. Both SED and BOE rely on commercially available tests that have been modified to some extent for New York City.

a. State Tests

New York State gives two sets of standardized tests, the Pupil Evaluation Program ("PEP") and the Program Evaluation Test ("PET"). The PEP measures individual achievement in reading and mathematics. By contrast, the PET is meant to measure the general effectiveness of a school in teaching science and social studies. It is not intended to measure the achievement of individual students.

During the period 1990-98 SED used a commercially prepared test called the Degrees of Reading Power ("DRP") for its PEP reading test. Before the 1998-99 school year, this test was designed to test whether students have achieved an extremely low level of reading skills, measured in reference to a particular score known as the State reference point ("SRP"). As such, the DRP test was only effective at differentiating students at the lowest-end of the reading achievement

spectrum, and was designed to identify children in need of remedial help. A similarly low SRP was set for State achievement examinations in mathematics. The State reading and math tests were given in 3rd and 6th grades.

SED requires that school districts have at least 90% of their students scoring at or above the SRP in reading and math. For the years that data is available, nearly all school districts outside of New York City have been able to achieve this low threshold of achievement. The City has not.

In the years 1990-91 through 1997-98, New York City did poorly in bringing its students over the low achievement threshold represented by the SRP. Its students did particularly poorly on the reading PEP. On the third grade reading examination, the range of students scoring over the SRP varied from 59-69%. Sixth graders scoring above the SRP for reading ranged from 63-74%. In math, 92% of third graders scored above the SRP in 1996-97. In other years, New York City's third graders ranged from 81-89% above the math SRP, with a general upward trend from 1994-95 through 1997-98. City sixth graders scored at 91% above the math SRP in 1997-98. In other years the range was 79-88% above the SRP, with a general upward trend in the later years. These percentage scores are an average for the entire City and thus include extremely poor performances in numerous districts within the City.

In 1998-99, concerned about the poor evaluative properties of the DRP, SED switched to a new more rigorous commercial test that measures student performance across a wider spectrum. The test was keyed to the Regents' new learning standards. Instead of a single criterion (the SRP), student achievement was measured by reference to four stepped criteria, with level one being the lowest and level four the highest. Students in levels one and two are characterized by requiring extra help to meet the Regents' new academic standards. The examinations were given to fourth and eighth graders. In reading tests given in 1998-99, 21.3% of City fourth graders scored in level one, the lowest level, while only 5.8% of fourth grade students in the rest of the State scored in level one. In the same year 17% of eighthgraders scored in level one for reading, compared with 5% in the rest of the State. Similar results were recorded for math tests with City's eighth graders performing particularly poorly. On none of the tests did more than half of the City's students score in levels three and four, the higher levels that demonstrate that students are on track to meet the Regents' standards.

School performance on SED's PET tests, which concern science and social studies, was similarly low. In the period 1990-96, the City's average scores were in the lowest 25% for the science examinations and never higher than the 16th percentile for the social science tests.

b. City Tests

Since 1969 BOE has given standardized tests of its own in reading and math to students in grades three through eight, separate and apart from the State's PEP and PET tests. Beginning in 1998-99 the City adopted the commercial examinations used by SED with some modifications. That same year, BOE determined that it would not do its own testing in fourth and eighth grades, relying instead on the new State examinations for those grades.

Until 1999-2000, and in contrast to the State, BOE scored its tests on a curve using "norm-based scoring." A student's performance on the examination was graded by comparison to the performance of a sample of students from around the country assembled by the test publisher. Norms are usually reported in percentiles which represent the number of students in the sample that scored at or below a particular score. For example, a score at the "50th percentile" indicates that 50% of the sample group of students scored at or below that level.

Defendants argue that New York City public school students are getting a sound basic education because City students typically score at just below the 50th percentile on City reading tests and above the 50th percentile on the Math tests. Defendants argue that these scores show that New York City Students score at the "national average" or at "grade level."

The court finds the terms "grade level" or "national average" inapplicable to BOE's norm-based exams. These examinations do not assess performance by fixed criteria concerning what a student should know in a given grade, but rather by the performance of the sample. Therefore the term "grade level" is misleading. Similarly, the so-called "national average" is not set by tallying scores on an examination given around the country. This would be impossible, as different school districts around the country use different examinations created by different publishers. Rather, the percentile ranks are set by reference to a relatively small sample. While the commercial publishers of the tests attempt to make the sample statistically representative of the nationwide student population, the evidence at trial demonstrated that they are not entirely successful in that endeavor.

Defendants also argue that the sample has a smaller proportion of at risk students than does New York City, and that a school system with so many at risk students must be providing a minimally adequate education if it is able to keep pace with a sample of students from proportionately more privileged backgrounds. While this argument has some merit, it is overcome by a careful examination of the performance of the City's public school students.

First, it must be remembered that while the City's public schools have a large proportion of at risk students, they also have a

significant minority of students who are extremely accomplished. These high-achieving students push up the City's average scores and can offset to a degree the poor performance of at risk students.

Second and more significant is the fact that City public schools every year decide not to promote a substantial proportion students. Over 40% of all 9th graders do not enter the 10th grade on time. In Queens and Manhattan, two of the higher performing high school districts, over 25% of students are over age for their grade. In Manhattan, a majority of students entering ninthgrade will have scores above the 50th percentile in reading and math standardized tests given in the eighth grade. Yet over 25% of ninth graders then go on to fail English and math courses. These figures demonstrate that a class' performance at the 50th percentile of the City's standardized test does not equal performance at grade level. City students' poor performance on the State's new examinations also undercuts any optimism caused by their scoring at the 50th percentile in the City's tests.

These and other shortcomings of norm-referenced standardized tests, and a desire to ensure that students are meeting the Regents' new standards, led BOE to replace norm based tests with criterion-based tests beginning in the 1999-2000 school year.

In sum, City public school students' graduation/dropout rates and performance on standardized tests demonstrate that they are not receiving a minimally adequate education. This evidence becomes

overwhelming when coupled with the extensive evidence, discussed above, of the inadequate resources provided the City's public schools. The majority of the City's public school students leave high school unprepared for more than low-paying work, unprepared for college, and unprepared for the duties placed upon them by a democratic society. The schools have broken a covenant with students, and with society.

In the next section, the court examines whether the failure of the New York City public schools is attributable to the State's actions.

V. CAUSATION

The following constitute the court's findings of fact regarding the causal link between the State's public school funding system and educational opportunity.

In its 1995 decision the Court of Appeals directed this court to determine whether plaintiffs demonstrated this causal link:

> In order to succeed in the specific context of this case, plaintiffs will have to establish a causal link between the present funding system and any proven failure to provide a sound basic education to New York City school children.

(86 NY2d at 318.)

The establishment of such a causal link might appear to be fairly straightforward. If it can be shown that increased funding can

provide New York City with better teachers, better school buildings, and better instrumentalities of learning, then it would appear that a causal link has been established between the current funding system and the poor performance of the City's public schools.

Defendants brought forth evidence at trial which they assert invalidates this assumption.

First, defendants offered expert testimony that educational resources do not have an effect on student outcomes. If these experts are correct, then lack of resources cannot be a "cause" of students' failure to receive a sound basic education. According to defendants' experts the crucial determinants of student performance are students' socio-economic characteristics, and enhanced resources can do little to overcome the educational deficits that at risk children bring to school.

While the court is not persuaded by this argument it cannot reject it out of hand. Beginning with the publication of the seminal Coleman Report in 1966,[33] there has been a significant body of educational research that purports to show that variations in school resources have, at best, small and uncertain effects on student achievement. Defendants' expert Dr. Hanushek is one of the leading

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[33]James S. Coleman, U.S. Department of Health, Education and Welfare, Equality of Educational Opportunity (1966).

exponents of this school.[34] There is, of course, a significant body of research that purports to demonstrate that resources *do* matter.[35] It is not the court's job to resolve this long-running academic debate but rather to decide the issue as it pertains to New York City public schools based on the evidence introduced at trial. Accordingly, the first order of business in examining causation is to evaluate the parties' evidence regarding whether resources affect student outcomes.

A causation analysis is also complicated by the fact that public school funding in New York State -- in common with most states -- is a joint undertaking of the State, local, and, to a lesser extent, federal governments. Currently New York State school districts receive 56% of their funding to support educational programs from local revenues, 40% from the State, and 4% from other sources, including the federal government. The relative mix of State, local and federal revenue has fluctuated over time and among districts. For example, State revenue over the last decade has ranged from 38% to 43% of total education spending. The percentage of federal spending has consistently been in the low single digits.

Defendants argue that the State's funding mechanism provides more than enough resources to assure New York City public school

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[34]See Ryan, Schools, Race and Money, 109 Yale L J 249, 291-93 1999; Hess, Courting Backlash: The Risks of Emphasizing Input Equity Over School Performance, 6 Va J Soc Policy & L 11, 27 (1998).

[35]See e.g. Ryan, supra n.34, 109 Yale L J at 292-93.

students the opportunity for a sound basic education, and that any failure to provide such an education is due to BOE's alleged mismanagement of the resources available to it. Additionally defendants argue that any funding shortfall that exists must be blamed on the inadequate financial contribution of New York City to its own public schools.

The court discusses these contentions in the following sections.

A. The Analyses of Defendants' Experts that Purport to Show that Resources Do Not Affect Student Outcomes

Defendants presented two expert witnesses who testified concerning analyses they performed to determine whether educational resources could boost student achievement. Some of the analyses of one these experts, Dr. Hanushek, are discussed above in section IV(F). Defendants' other expert in this area was Professor David Armor, a Sociology Professor at George Mason University. According to defendants these experts' analyses demonstrate "the lack of any systematic relationship between spending and achievement, both in New York City and the State."[36]

Before discussing these experts' analyses, the court notes that the State's own Education Department, and the Board of Regents,

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[36]Defendants' Trial Evidence Volume Accompanying Post Trial Brief at ¶ 345.

have long taken an opposing view. Both SED and the Regents have long pressed for more resources for New York City's public schools, and both have unequivocally stated that all students can learn with sufficient resources. While SED and the Regents have acknowledged that socioeconomic disadvantages create a high probability of lower academic performance, they have taken the position that such disadvantages may be overcome by sufficient, targeted resources.

1. Dr. Armor's Testimony

Dr. Armor offered his regression analyses as proof that socioeconomic background is such a crucial factor in student success that student performance is essentially unaffected by school funding.

Dr. Armor first compared the City's scores on the State PEP tests with the rest of the State's. He attempted to adjust test scores for the 1997-98 school years according to students' socio-economic status. Dr. Armor used individual student data regarding whether a student received free lunch and was classified as LEP (Limited English Proficient). He also incorporated 1990 census data that concerned individual school districts as a whole, including the average household income in a district, the percentage of adults with baccalaureate degrees in a district, and a composite variable designed to capture the number of at risk families in a district. For the

State PEP test scores for general education students in math and reading, Dr. Armor performed a regression that predicts the scores of general education students based on their socioeconomic status. He then used this analysis to "level the playing field" between New York City, with its high percentage of at risk students, and the rest of the State, with its significantly lower percentage of such students. Once he removed the effect of the socioeconomic factors on student test scores Dr. Armor found that there was almost no difference between City and State general education students on the sixth and third grade PEP reading and Math tests.

Dr. Armor also looked at City general education public school students' scores on State and City tests in the 1996-7 and 1997-8 school years to determine if they bore any relation to five school resource measures: 1) teacher experience, as defined by five or more years on the job, 2) teacher education as defined by the percentage of teachers with a masters degree or better, 3) teacher certification, 4) pupil-teacher ratio, and 5) per pupil spending. He analyzed single-year performance of four cohorts of students: 1) fifth grade students in the 1996-97 school year, 2) sixth grade students who in 1997-98 attended schools that went from kindergarten to sixth grade, 3) eighth graders in 1997-98, and 4) sixth graders in 1997-98 who had attended schools that went from kindergarten to fifth grade. He again adjusted student test scores by their socioeconomic status in an attempt to level the playing field

for a comparison of student test scores. He concluded that there was little or no statistically significant causal relation between student test scores and the five school resource measures.

Finally, Dr. Armor conducted a series of regressions in which he found that there were no statistically significant correlations between per pupil spending and the levels of teacher certification, teacher education or teacher experience in New York City's public schools. According to Dr. Armor each of these measures of teacher quality relied upon by plaintiff do not increase when funding increases.

Dr. Armor's analyses are not persuasive. First, all of Dr. Armor's studies are flawed by their reliance on analyses of single years of data. As noted above, education is a cumulative enterprise, and student outcomes are dependant not just on the resources that they receive in a single school year, but on the resources that they receive over years of schooling. Dr. Armor's analyses are not probative because they rest on the premise that student test results in a single year can be compared to the resources available to the student in that single year to gauge the effectiveness of resources.

The court also finds that all of Dr. Armor's results are skewed by his decision to "level the playing field" by adjusting test scores to account for socioeconomic characteristics of at risk students. This decision rests on the premise that was not established at trial: that at risk students' educational potential is immutably shaped by

their backgrounds. This is not the position of SED or the Regents, and it is contrary to the evidence at trial.. Defendants argue that BOE has made similar adjustments in its official rankings of schools. However, BOE has done this primarily to compare schools with similar demographic characteristics; it has not taken the position that the demographic characteristics of a school's student body excuse poor performance.

Dr. Armor's analyses of resources failed to track the effect of resources provided to individual students. For example, dollars spent on a Reading Recovery program in a given school would be attributed to a school's budget, but very few students would actually receive that benefit. Studies that examine overall spending on student achievement are of limited probative value. Rather, an accurate measurement of spending effectiveness must examine the particular inputs upon which money is spent.

Even if overall spending were a probative measure, Dr. Armor's spending data were incomplete. The data failed to account for variance in school costs and resources depending on such factors as the size of the school, whether its space was owned or leased, transportation costs, and whether it received private funding.

Finally, some of Dr. Armor's resource variables were not well-chosen to measure the effect of inputs on student performance. For example, the evidence at trial indicated that teachers with two years' or less experience were particularly correlated with lower student

outcomes. Dr. Armor measured the supposed effect of teachers with five years of experience or less. Additionally, although the percentage of teachers with a Master's degree is sometimes used by experts to measure teacher quality, the evidence indicated that it is not the strongest such measure.

2. Dr. Hanushek's Testimony

Dr. Hanushek also testified concerning the alleged disconnect between student achievement and school resources.

Dr. Hanushek began by examining spending and performance trends in the United States as a whole. He presented charts which demonstrated that nationwide student performance on the SAT tests declined in the mid-1960s to the early 1980s. After a slight increase thereafter, student performance has remained essentially flat since 1985. This decline and plateau persisted during this period despite decreases in teacher-student ratios, and steady increases in per pupil spending and teacher experience as measured by teachers with an MA and years teaching. Dr. Hanushek noted a similar trend for National Assessment for Educational Progress ("NAEP") tests, though this data does not reach back into the 1960s.

Dr. Hanushek also presented data concerning nationwide labor market outcomes based on 1990 census data, in which he found that school funding levels do not generally have an effect on individual's

subsequent earnings. The one group for which there was a statistically significant positive correlation was black women. However, the effect observed was very small. By contrast, Dr. Hanushek found that the parental education level did have a strong effect on their children's adult earnings levels.

Dr. Hanushek then sought to examine the effect of spending on New York City public schools. He first examined 619 New York school districts outside of the City to see if the number of students who received Regents, as opposed to local, diplomas, was affected by funding levels. He examined the number of students who received Regents diplomas for a single year, 1996-97.[37] In his final analysis, he sought to account for students' socioeconomic status. After accounting for socioeconomic status, Dr. Hanushek found that there was in fact a *negative* relationship between spending and the number of students who received Regents diplomas.

Dr. Hanushek then turned his attention to New York City to examine whether elementary students' test performance in 1997-98 bore any relation to district spending. He isolated "high poverty" schools -- those with over 90% of students receiving free lunch -- and

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[37]During his direct testimony Dr. Hanushek stated more than once that this data was from "1996 and 1997." However, it does not appear from this testimony that he meant to imply that he had culled observations from two contiguous school years (e.g. 1995-96 and 1996-97). Exhibits used by Dr. Hanushek during his direct testimony, and his testimony on cross examination make it clear that this analysis concerned observations for a single school year (1996-97).

determined whether those schools scoring above the mean on nationally normed City tests ("high performing schools") spent more or less per-pupil than schools scoring less than the mean ("Low performing schools").[38] He found that the high performing schools receive less funding than the lower performing schools. This result was statistically significant. He observed the same patterns for "moderate poverty schools" with 75% of their students receiving free lunch.

Dr. Hanushek performed similar analyses for other inputs. His analysis of school facilities are discussed in section IV(F), above. He also determined that pupil-teacher ratio and "computer availability" are not related to student performance.

Dr. Hanushek also performed parallel analyses for middle schools, again using the "high poverty" and "moderate poverty" and "high performing" and "low performing" typology. The results were essentially the same as those for elementary schools. Dr. Hanushek again found a statistically significant negative correlation between per pupil spending and student performance. He also found no correlation between student performance and "computer availability." The result was equivocal for the relationship between student performance and pupil-teacher ratios in high poverty schools.

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[38]Schools were included in this analysis only if they scored above (or below) the mean on both math and reading exams. I.e. no school that was above average on one type of exam, and below average on the other, was included. By using this criterion Dr. Hanushek sought to clearly differentiate high and low performing schools.

Finally, Dr. Hanushek conducted regression analyses for all schools, looking at the effect, or lack thereof, of the inputs discussed above. He controlled for students' socioeconomic status. His results were consistent with those of the analyses discussed above.

In summing up his testimony Dr. Hanushek stated that he believed that poor students can improve their academic performance, and that teacher quality, at least, can make a difference in student outcomes. However, he testified that he felt that school systems are not using correct criteria in identifying, or compensating, better teachers. He recommended tying teacher compensation to outcomes. He concluded that New York City has sufficient resources at present to improve student outcomes without any influx of new funds.

Dr. Hanushek's analyses suffer from some of the same shortcomings as Dr. Armor's. Crucially, his State-specific analyses studying the effect of resources on students are snapshots of single years, and do not measure the effect of resources over time. Like Dr. Armor's, those of his analyses which focus only on gross per pupil spending are of limited value absent an examination of the effects of particular inputs. His calculations of per pupil spending also do not account for variations in costs among schools, and for private funding received by some schools.

Dr. Hanushek's studies concerning students' receipt of Regents diplomas are not probative. These studies do not incorporate

far more relevant information concerning student progress, including drop out rates, GED rates, and the number of years it takes to graduate. Moreover, the problems discussed above with respect to limiting statistical analyses to a single year of inputs and outcomes increase when the year studied is the students' last year of education. As plaintiffs' expert Dr. Grismer explained, studying Regents diploma rates where the only educational inputs considered are those to which the child is exposed in her last year of education "leaves out 12 years of investment or 11 years of investment that have been made that we all know effect a particular test score in high school."

Finally, Dr. Hanushek's use of computers per pupil as a resource measure was compromised, as he acknowledged on direct examination, by the fact that this resource measure and student test scores were culled from different years. Additionally, the analysis does not capture any information about the age and quality of computers and whether they were actually in use.

For these reasons, Dr. Hanushek's analyses of State and City data are not persuasive. Dr. Hanushek's testimony regarding national trends casts some doubt on the proposition that spending more money will inevitably raise student outcomes. However, as discussed below the evidence demonstrates that increased spending on certain inputs can positively affect student outcomes.

B. **The Effect of Additional Resources on Student Achievement**

Contrary to defendants' argument, increased educational resources, if properly deployed, can have a significant and lasting effect on student performance. There is a causal link between funding and educational opportunity.

Many of the subsidiary findings of fact that form the foundation for this finding have been recited above. To summarize, the court has already found, inter alia, that:

> > Effective teachers and school administrators can boost student performance. New York City's school administrators and teaching force, particularly in its neediest districts, are inadequate.
>
> > Smaller class sizes can have a marked positive effect on student performance, particularly in early grades. At present New York City's school buildings are too overcrowded to effectively address this problem.
>
> > New York City's school buildings are in many cases so dilapidated or antiquated as to impede learning. Conversely, better school facilities can boost student achievement by providing students with the resources they need, such as up-to-date science labs, adequate climate control, and sufficient electrical capacity for computers and other instructional aids.

The evidence demonstrates that other resources also have a

substantial positive effect on student outcomes.

Plaintiffs convincingly demonstrated that New York City's public school population, with its high percentage of at risk students, requires what BOE terms an "expanded platform" of programs that will allow students to spend "more time on task." In other words, at risk students need specially tailored programs, and more time spent on all aspects of academic endeavor, in order to increase their academic achievement. Initiatives that have been shown to positively affect student performance in New York City include pre-kindergarten programs, summer programs, and increased hours at school via after school and Saturday programs. None of these extended time programs have been fully implemented in New York City public schools.

Literacy programs are particularly important for at risk students. The array of programs provided by BOE under the umbrella of the Project Read initiative have had a positive effect on the students who have participated in the programs. Project Read was established in 1997 to provide assistance to students who are at risk of never achieving literacy. The program is targeted to first through third graders. It is comprised of three components: an Intensive School Day Program, which provides individual or small group instruction to permit teachers to spend more time working with each student; an After-School Program, which provides more instructional time; and a Family Literacy Program, which helps parents better support their children's education.

Defendants cite BOE studies, which, while acknowledging the effectiveness of the After School Program, cast some doubt on the results of the Intensive School Day Program. These BOE studies were undercut by Robert Tobias, head of BOE's Division of Assessment and Accountability, who testified that they were based on incorrect data provided in error by a testing company. Additionally, because of insufficient funds, Project Read services are rationed to only the neediest students. The control groups for evaluative purposes were comprised of higher-functioning students from the waiting list. There is evidence that this disparity between participants and students in the control skewed the comparison. In all events, there is substantial evidence that certain of the programs offered during the Intensive Day Program, including Success for All and Reading Recovery, have been extremely effective. These two programs are also among the most expensive under the Project Read umbrella.

SED and BOE have long recognized that summer school can be an important resource for low performing students. Particularly with BOE's cessation of "social promotion" and the advent of the Regents' new standards, summer school has become an important source of additional instructional support for New York City's at risk public school students.

1. The Potential Costs of Increased Educational Resources

Increasing the resources available to New York City school children will require substantial additional funding. It may well be, as defendants argue, that additional resources may be realized by more efficient use of BOE's existing funding. However, the court finds as a matter of fact that financial resources in addition to those already available will be required to lift the City's public schools from their current abysmal state.

The following outline of the potential costs for bringing the New York City public schools in compliance with the State Constitution is not exhaustive and is for illustrative purposes only. As described in section VII below, the choice of measures designed to remedy the constitutional violation described herein lies in the first instance with the State legislature informed by the expertise of the Governor, SED, BOE and the Regents. At this juncture, the court does not prescribe the precise spending measures that must be taken. The following examples are given to sketch the breadth and depth of the public schools' needs.

a. Better Teachers and Administrators

If the New York City public schools are to compete successfully with surrounding suburban schools for qualified teachers and administrators, more resources will have to be made available to increase salaries and improve working conditions. Given that New York

City has approximately 78,000 teachers, even a modest increase in teachers' salaries will be costly. If the average raise were $5,000 -- which would be a good deal less than the current average wage differential between the City and its suburbs -- the annual increase in teacher pay (not including benefits) would amount to $390 million. Other initiatives to attract teachers and administrators, such as subsidized housing, loan forgiveness, or moving stipends, would require additional funds.

Professional development is an important and effective means of improving the performance of existing teachers. The experience of District 2 demonstrates that effective professional development requires a significant financial commitment. BOE requested $34.1 million in additional professional development funds for 1999-2000 school year. Credible evidence indicates that this request understated actual need in order to be "politically acceptable." Only about $14.1 million of this request was provided.

b. Improved School Buildings

Remedying the disrepair and overcrowding that plagues New York City's public schools may require billions of additional dollars. As described above the State has consistently underfunded BOE's capital and maintenance needs.

Because BOE is currently doing only emergency repairs to its

buildings, it is difficult to determine exactly how much more maintenance spending is necessary to repair existing buildings. A conservative estimate can be gleaned from the 2000-04 Proposed Plan, which sought $327 million annually in order to establish a regular and reliable cycle of preventive maintenance. However, the credible testimony at trial indicated that even this amount was too low.

BOE also lacks sufficient capital funds. Again a conservative estimate can be gleaned from the 2000-04 Proposed Plan, which sought $11.2 billion for capital spending during the Plan period. The credible evidence at trial demonstrated that this amount was insufficient to address all of the City public schools' capital needs. As in past plan periods, State funding has lagged far behind BOE's capital needs.

c. Other Resources

Other potential costs are harder to quantify based on the record produced at trial but are nonetheless real. For example BOE needs additional funding for library books, school supplies, and instructional technology. Substantial funds are necessary to provide the expanded platform of educational resources necessary to boost the achievement of all at risk children. While many of BOE's programs for at risk children have shown to produce positive results, only a fraction of New York City's public school children have access to such programs.

The State has mandated that Universal Pre-kindergarten be made available to all eligible children by 2004. However, while this initiative has been well-funded compared to other programs in the expanded platform, it has still lagged behind the amount necessary to ensure that New York City meets the deadline.

Project Read has thus far been funded entirely by the City and the amount allocated has been insufficient to reach all the students who need such services in order to achieve literacy. Similarly, BOE is able to make summer school available only to the neediest of the needy, leaving the majority of at risk students unserved.

C. Causation and the Hierarchy of Governmental Actors

Defendants offer two additional arguments in support of their assertion that no causal link exists between inadequate State funding and the failure to provide New York City public school students with a sound basic education.

First, defendants assert, as their counsel phrased it in closing argument, that "the money is there," i.e. that the State's funding of public education is adequate to provide all students with the opportunity for a sound basic education. Any failure to provide such an opportunity, according to defendants, is caused by BOE's inefficient spending of the funds available to it. Defendants point out that New York State's per pupil expenditures are the third highest among the states. The New York City school district has consistently been among

the highest spending large school districts in the nation.

Second, defendants argue that the City of New York's local contribution to its own public school district is lower than the statewide average and argue that any failure to provide a sound basic education must be attributed to the City's failure to adequately fund its schools. Defendants presented evidence that New York City's provision of local revenues is about $4000 per pupil, while the State average is approximately $6200 per pupil. Defendants further argue that the State has increased its contribution to the City's public schools in recent years while the City's local effort has declined since 1986. Defendants decry this decline, particularly in light of the City's recent budget surpluses and tax cuts.

The short dispositive answer to both of these arguments is that the State Constitution reposes responsibility to provide a sound basic education with the State, and if the State's subdivisions act to impede the delivery of a sound basic education it is the State's responsibility under the constitution to remove such impediments. As the Court of Appeals explained in sustaining the complaint in this case, "We recognized in Levittown that the Education Article imposes a duty upon the *Legislature* to ensure the availability of a sound basic education to all the children of the State." (86 NY2d at 315 [emphasis added].)

The State's power over education is plenary.

The State prescribes the architecture of governance in the State's school districts. For example, in 1969 the State decentralized the New York City School District, devolving significant power to the City's community school boards (see L 1969, Ch 330). In 1996, after decentralization -- at least as practiced in the City -- had long proven to be a failure, the legislature radically reduced the power of community school boards and concomitantly increased the power of Chancellor and the central board (see Education Law §§ 2590-d- 2590-j). Other examples of the State's plenary powers over educational governance can be seen by such diverse actions as the creation of the School Construction Authority in 1988 (see L 1988, ch 738 §1) and the imposition of a "maintenance of effort law" requiring the City to maintain education funding at a specified portion of the City's budget (see L 1976, ch 132; Board of Education of the New York City School District v City of New York, 41 NY2d 535, 542-3 [1977]).

The State prescribes the means by which municipalities and school districts raise revenue for education. Pursuant to State law, all but five of the State's approximately 682 school districts are "independent" districts which raise local revenue for education through taxes levied by their boards of education on residential and commercial properties within the boundaries of each district. For the independent school districts, such property taxes provide nearly 90% of local (i.e. not State or federal) education funding. By contrast the legislature

dictates that the school districts of the State's five largest cities (New York, Yonkers, Buffalo, Syracuse, and Rochester) shall have no independent revenue generating authority. Because they are not allowed to levy taxes to fund their school budgets, these "Big 5" school districts are known as "dependant school districts." The dependant school districts must depend on the local municipal government and citywide taxes for the local component of their school budgets.

The State Constitution gives the State broad authority to create and modify local governments and their functions, including their tax structures and limitations on their tax rates and debt capacity. (NY Const Arts III, § 1, XVI, § 1.) Local governments, such as New York City, may incur debt and levy, collect and administer local taxes only where consistent with the laws of the legislature. The Court of Appeals has ruled that:

> Under our form of State government, the exclusive power of taxation is lodged in the State Legislature ... . A corollary to this rule is that municipalities such as the City of New York have no inherent taxing power, but only that which is delegated by the State ... . Moreover, the delegation of State taxing power to a municipality must be made in express terms by enabling legislation.

(Castle Oil Corp. v City of New York, 89 NY2d 334, 338-9 [1996].)

The State regularly dictates or approves changes in the City's tax structure. For example, the City has enacted at least 14

different tax cuts in the last several years, as part of its tax reduction plan. New York State has authorized or approved a majority of these cuts. The State has also acted unilaterally to repeal or restrict New York City taxes.

The State's causation arguments run athwart the argument it successfully made in seeking the dismissal of the companion case of City of New York v State of New York. There the State argued, and the Court of Appeals agreed, that the City lacked capacity to bring a suit against the State asserting virtually the same claims as those asserted by the plaintiffs herein.

> Constitutionally as well as a matter of historical fact, municipal corporate bodies -- counties, towns and school districts -- are merely subdivisions of the State, created by the State for the convenient carrying out the State's governmental powers and responsibilities as its agents. Viewed, therefore, by the courts as purely creatures or agents of the State, it followed that municipal corporate bodies cannot have the right to contest the actions of their principal or creator affecting them in their governmental capacity or as representatives of their inhabitants.

(City of New York v State of New York, 86 NY2d 286, 289-90.)

As "creatures or agents of the State" both BOE and the City are subject to the State's control. Whatever authority they exercise over education is authority delegated by the State. The State

Constitution explicitly provides that the State's control over educational matters is not subject to the home rule powers granted local governments (see NY Const art IX, § 3[a][1]).

Defendants point out that the State's public schools have traditionally been funded from State and local sources. From this inarguable fact, they proceed to assert that the State has "surrendered" a portion of its sovereign powers to school districts (and, in the case of the "Big 5," to municipal governments), as if this "surrender" were irrevocable. To the contrary, the cases cited by defendants for this proposition make it clear that the State's delegation of powers is revocable (see Board of Education of Buffalo v City of Buffalo, 32 AD2d 98, 100 [1969]; Hirshfield v Cook, 227 NY 297, 301, 309-10 [1919]).

This holding, that the State is ultimately responsible for assuring the provision of a sound basic education, does not carry with it a correlative finding that BOE's management of the New York City School District is entirely adequate, or that the City's contribution to its own schools is sufficient. In fact evidence introduced at trial, summarized in subsection F below, suggests that both BOE and the City have contributed to the schools' current crisis.

However, even if this court were to hold that the failures of the City and BOE were not the ultimate responsibility of the State, the State's own funding mechanism for distributing aid to schools would remain a substantial cause of the public schools' malaise. The State's

system for allocating aid to public schools is discussed in the next section.

D. The State Aid Distribution System

The State's school aid distribution system has for over a decade prevented the New York City public school system from receiving sufficient funds to provide its students with a sound basic education. As SED, the Regents, and numerous State-appointed blue ribbon commissions have repeatedly reported to the State legislature, the State aid distribution system does not provide adequate funding to all districts. As recently stated by SED: "resources are not aligned with need. Those schools with the greatest need frequently have the fewest fiscal resources ... . The situation in New York City illustrates this point."

The evidence demonstrates that the State aid distribution system is unnecessarily complex and opaque. It is purportedly based on an array of often conflicting formulas and grant categories that are understood by only a handful of people in State government. Even the State Commissioner of Education testified that he does not understand fully how the formulas interact.

However, more important than the formulas' and grants' needless complexity is their malleability in practice. The evidence at trial demonstrated that the formulas do not operate neutrally to

allocate school funds -- at least with respect to annual increases in State aid. Rather the formulas are manipulated to conform to budget agreements reached by the Governor, the Speaker of the State Assembly, and the State Senate Majority Leader.

The court emphasizes that a process in which the final allocations to the State's school districts is determined by three elected officials is not inherently unconstitutional. Rather, it is the fact that the State's school funding mechanism has failed for more than a decade to align funding with need -- and thus has failed to provide a sound basic education to New York City's School children -- that runs afoul of the Education Article.

1. State Funding Formulas and Categorical Grants

In 1999-2000 New York State used approximately 50 different formula-based aids and categorical grant programs to distribute the $12.5 billion allocated to the State's public schools by the legislature. As in past years, the formula-based aids constituted approximately 95% of State aid, while categorical grants constituted the remaining five percent.

The individual formulas generally consist of several components that may include a base amount, a student count, a weighting factor and additional multipliers. For each type of aid, these components are combined together, with one or more mathematical

calculations, to determine the amount of aid generated for each district. Such formulas exist for each type of aid. As a result the entire State aid distribution is extremely complicated. SED's description of all the formulas extends to 59 pages. The State Division of the Budget's explication of a single formula can require several pages of dense calculations.

Basic Operating Aid, the largest State aid program, illustrates the complexity and arbitrariness of the State aid formulas. SED's description of the Basic Operating Aid formula requires three and a half pages of single spaced text and mathematical formulas. Operating Aid is distributed according to a complex formula which involves four components: 1) a "fixed sum" for calculating the maximum district expenditure for which State aid will be calculated, 2) a "ceiling adjustment," which permits a small second tier of aid above the basic expenditure ceiling, 3) a "state operating ratio" and 4) a "selected total aidable pupil unit (TAPU)" for payment.

TAPU, which is a weighted student count, appears in several State aid distribution formulas. It begins with an attendance-based student count and adds "weights" for additional student characteristics. For example TAPU includes a weight of .25 for a category of at risk students called "Pupils with Special Education Needs." There was no evidence in the record that the TAPU weightings bear any relation to actual student need. In addition, TAPU is based on a district's

attendance, rather than its enrollment figures. Since districts with large numbers of at risk students will have higher absentee rates, this aspect of TAPU harms schools with high concentrations of poor and minority students.

Even State aid formulas that purport to address specific needs do not in fact attempt to measure or prioritize the needs of different districts or the actual costs of addressing these needs. For example, Class Size Reduction Aid for 1999-2000 includes a complex formula that estimates the number of kindergarten classes needed as "the positive result of 1995-96 full-day and half-day enrollment divided by 20 minus such enrollment divided by a district's 1993-94 average kindergarten class size." The basic grant per classroom uses the 1994-95 median teacher salary. New York City is phased in using a lower percentage (0.187) than either the other Big Five school districts (0.333) or school districts in the rest of the State (0.400). There is nothing in the record that demonstrates that any of these factors is related in any way to the actual cost of reducing class size.

So called "transition adjustments" also distort the operation of State aid formulas. Transition adjustments are used either to increase or decrease the amount of aid that a district is entitled to receive pursuant to the terms of a particular formula. There are two types: (1) "caps" that limit any increase in funds to a fixed percentage determined independently of the operation of any particular aid formula,

and 2) "hold harmless" provisions that prevent districts from losing State aid from one year to the next through operation of the aid formulas. Transition adjustments have had an impact on the distribution of State aid. In 1997-98 SED determined that due to caps or hold harmless adjustments, only 12.8% of districts in the State received the aid that they would have been entitled to under the formulas in the absence of the transition adjustments.

Defendants are correct that in recent years fewer aid categories have been subject to transition adjustments. Defendants' expert James Guthrie, a Professor of Public Policy and Education at Vanderbilt University, demonstrated that transition adjustments amount to less than six to seven percent of total State aid. Nonetheless transition adjustments have a significant impact on yearly increases in State aid and permit the State to direct millions of dollars in resources without regard to its aid formulas.

Defendants defend the State aid distribution system by stating that it serves several legitimate State purposes. Principally, defendants claim that the distribution of aid is equalized, so that relatively poor districts receive more aid than relatively wealthy districts. Additionally, defendants claim that the system is responsive to student need.

Defendants are correct that the State aid distribution system is equalizing in that aid is generally distributed in inverse relation

to wealth. As measured by the State's Combined Wealth Ratio ("CWR"), which gauges a district's income and property wealth, New York City is a relatively wealthy district and for this reason sees its share of state funding somewhat depressed. By definition, a CWR of 1.0 identifies a district of "average" wealth, but the index number would not fairly disclose where a district in fact lies within the distribution of all districts in the State. In 1995-96 only 232 school districts out of 683 in New York State had CWRs of 1.0 or greater - in other words the school district wealth distribution is so skewed that only about one third of the State's districts were of average or greater wealth. New York City's CWR of .985 for 1995-96 ranked it 237th, wealthier than 65% of the districts in the State.

However the evidence indicates that CWR overstates New York City's wealth. First, CWR and other formula components that purport to account for district wealth fail to take into account regional costs. School districts face significant variation in costs to deliver educational services, which in turn affects their ability to pay for various educational inputs. In 1999, SED noted the longstanding recommendations made by various blue ribbon panels to include regional cost estimates in the State aid formulas and concluded that "[t]he failure to explicitly recognize geographic cost differences within the major operating aid formulas has led to formula allocations which are inequitable." SED has quantified these differences in regional costs.

New York City's regional cost ratio is the highest in the State, which means that a dollar buys fewer educational resources in New York City than anywhere else in the State.

Second, the CWR's wealth equalization is undermined to a degree by the State's School Tax Relief Program ("STAR"). Under STAR, qualified households receive a partial school property tax exemption, thereby reducing their school property tax bill. The State then reimburses local school districts for the foregone tax revenue due to property tax cuts and thereby shifts a portion of local education taxes from individual school districts to the State. The unrebutted evidence at trial indicates that New York City receives less STAR aid than localities in the rest of the State. The Independent Budget Office estimates that New York City homeowners received an average reduction in tax liability of $323 per participating household, while those in the rest of the State received an average reduction of $926. The State Comptroller has predicted that when the STAR program is fully implemented, New York City will fare even worse vis-a-vis the rest of the State. Defendants' assertion that "STAR is property tax relief, not school aid"[39] does not comport with the practices of SED or the State Division of Budget, which include STAR tax relief in their evaluations of school aid.

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[39]Defendants' Trial Evidence Volume Accompanying Post Trial Brief, ¶ 648, n 100.

Finally, even though State aid distribution formulas are grossly wealth equalizing, they do not appear to be particularly responsive to changes in district income. From 1988-89 through 1997-98, measures of New York City's property wealth varied considerably. During 1994-98, New York City's actual value of taxable real property per "Total Wealth Pupil Units" in thousands dropped from $260.3 to $215.7, a loss in value of 17.2%. In contrast the average value in the rest of the State dropped by 1.9%. Despite these differences, during each of these years New York City received virtually the same percentage share increase in State aid.[40]

For the above stated reasons, the wealth equalization effects of the State aid formulas do not accurately reflect New York City's wealth and ability to pay for education.

More importantly, defendants' other primary defense of the State aid distribution system -- that it is driven in large measure by

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[40] Defendants argue that the CWR understates New York City's wealth because 1) New York City has a greater proportion of residents with capital invested in securities and other instruments that is not captured by the CWR measurement, 2) New York City has a greater capacity than other jurisdictions to impose taxes on non-residents, and 3) New York City has a greater proportion of residents who itemize on their federal tax income tax forms, allowing them to deduct their local taxes. Defendants did not present any evidence quantifying these effects. With respect to New York City's ability to "export" taxes, that power is subject to the approval of the State. Occasionally, on its own instance, the State has reduced the City's ability to tax nonresidents. The State exercised this power recently when it revoked the City's authority to levy an income tax on commuters. Accordingly, the court finds that defendants did not demonstrate that the CWR understates the City's wealth.

student need -- is almost completely negated by the record. It is true that the State aid formulas contain factors such as TAPU that are weighted to a degree by a district's percentage of at risk children. Additionally, some State aid formulas, such as "Extraordinary Needs Aid" and "Limited English Proficiency Aid" are purportedly designed to send more money to districts with large numbers of at risk children. However, these formulas and weightings do not accurately account for the costs of education caused by large numbers of at risk students in a single district.

The State Education Department has long documented this misalignment of resources in its Need/Resource Capacity Index, a measure of a district's ability to meet the needs of its students with local resources. Based on a comparison of districts according to their Needs/Resource Capacity Index ratios, SED has determined that New York City receives substantially less State aid than districts with similar needs. For example in 1996-97 the City received $3562 per pupil in State aid, between $1500 and $1800 less than districts with similar Needs/Resource Capacity Index ratios. This analysis is substantiated by other SED analyses using different methods that demonstrate that New York City receives substantially less State aid than districts with similar numbers of at risk students. Indeed, the City receives less State aid than many districts with substantially smaller proportions of at risk students.

Even if the State aid formulas were designed to allocate education aid more fairly, it would be difficult to change the orientation of State education funding because any annual *increase* in State aid has historically been divided without reference to the formulas. The evidence at trial demonstrated that the formulas and grant categories are not allowed to operate neutrally but rather are manipulated during the State's annual budget negotiations by State officials to produce consistent funding allocations of aid increases among school districts around the State. The evidence at trial demonstrated clearly what the State Comptroller has found:

> It is well known that the formulas are annually "worked backwards" until the politically negotiated "share" for the City schools is hit in the calculations. In this context, the data feeding into the school aid formulas for New York City is really of no practical consequence whatsoever - the City will get the negotiated share of aid regardless of what data they report.

The evidence supported the Comptroller's conclusion that annual increases in State education aid are allocated pursuant to an agreement struck by the Governor and the leaders of the State Assembly and the State Senate as part of the overall annual budget negotiations. These negotiations produce a general agreement on the overall amount to be spent on education and how it is to be distributed across the State which is then ratified by the legislature. This phenomenon is commonly

referred to as "three men in a room."

If there are "three" men in a room, and the Comptroller is not among them, one may reasonably query how the Comptroller is able to speak authoritatively regarding this process. The answer is that the process is an open secret in Albany. The means for effectuating the agreement to provide a fixed share of State aid increases is contained in State software and documents. The documents and software relied upon by the court do not reveal any deliberations of individual legislators. Rather, they simply confirm how the process of allocating increases in State school aid works. Confirmation of the process is also seen in New York City's consistent "share" of any annual State aid increase.

The State has created computer software, called the "State aid modeling system," to enable governmental personnel to evaluate the distributional impact on school districts of changes to the State's public school funding formulas. The State aid modeling system includes thousands of variables that the State has devised as part of approximately 50 State aid formulas and categorical grant programs that it uses to fund public schools in New York State.

The State aid modeling system is used by staff from SED, the Division of the Budget ("DOB") and members and staff of both houses of the legislature. In order to manipulate data using the State aid modeling system, personnel from SED, DOB and the legislature fill out a form entitled "Confidential State Aid Data Form" in which they

indicate the changes to the formula or formulas they wish to test. The form permits users to specify numerous very precise changes in formulas.

The blank Confidential State Aid Data Form includes a section entitled "goals" that lists several factors, including "% increase for NYC." No other school district is listed on the form. The existence of this "goal" is evidence that confirms the Comptroller's assessment that the City's annual increases in State aid is determined during budget negotiations, and not by neutral operation of the State's funding formulas.

State budget documents reflect that New York City receives a fixed percentage share of any annual increase in State aid for education. The target has been 38.86%, and the State has hit or come very close to this percentage over the last 13 years. This percentage share is reflected in the final computer runs that SED generates at the conclusion of the budget process. These are the most reliable measures of intended allocations of State aid increases. These runs reflect that an array of manipulations of computerized State aid formulas -- and in some years, other types of State aid -- were used from year to year to reach this percentage. It is inconceivable that this recurring percentage share could randomly recur year after year.

Defendants correctly point out that the actual amounts eventually allocated to school districts have varied somewhat from the amounts set forth in SED's computer runs. The process discussed above

determines changes in the formulas. However, some of the data inputs used in the formulas may change before the State school aid is paid out, which in turn may change the percentage increase afforded New York City. The fact remains that the formulas have been altered to effect a particular distribution of State aid and not for any reason keyed to the educational goals supposedly embodied in the formulas. Moreover, the total increase in aid actually received by the City is generally consistent with the amounts predicted in SED's computer runs.

Plaintiffs' evidence on this issue does not concern impermissible "legislative motive," as defendants argue. The First Department has cautioned this court to protect against any evidence that would violate the speech and debate clause of the State Constitution or the correlative common law privilege that protects executive branch officials acting in a legislative capacity (Campaign for Fiscal Equity v State of New York, 271 AD2d 379 [2000]). The speech and debate clause and the common law legislative privilege protect governmental officials as they deliberate and weigh policy and legislation. The evidence discussed above is not concerned with legislative deliberations or motives but rather with what the legislature ultimately does when it modifies State aid formulas to achieve certain annual percentage allocations of increases in school aid.

E. Funding Comparisons and Recent BOE Surpluses as Evidence of Adequacy

Defendants frequently state in their papers that New York State is the third highest-spending State on education, and that New York City spends more per pupil than most large urban school systems. They argue that these figures alone demonstrate that the State provides enough resources for a sound basic education. Defendants also cite recent increases in State spending as evidence that the State is meeting its constitutional obligation. These facts in isolation are of no probative value. Among other failings, gross spending amounts do not take into account local costs and do not reveal whether the money is spent effectively. Fundamentally, spending comparisons cannot erase the facts discussed above which demonstrate -- as measured by the inputs and outputs included in the Court of Appeals' template -- that New York City public school students are not receiving a sound basic education. A sound basic education is gauged by the resources afforded students and by their performance, not by the amount of funds provided to schools.

The State's recent increases in school funding can only begin to address longstanding problems in New York City's public schools. These increases have been enabled by unprecedented budget surpluses. They have not been coupled with the structural reform necessary to assure that adequate resources are provided to New York City's public schools on a sustained basis. Since there has been no fundamental change in the structure and operation of the State education finance

system, there is no guarantee that recent increases are sufficient or will be sustained.

Defendants also urge the court to compare the City's public schools with Catholic schools in the City. They argue that the City's Catholic schools meet the educational needs of their students and achieve better results than New York City's public schools despite Catholic Schools' larger student-to-teacher ratio, larger class sizes, lower paid teachers and lower per-pupil spending. It is true that the City's Catholic Schools consistently outperform public schools on State-wide tests, have a lower drop out rate, a higher percentage of students graduating high school in four years, and substantially more students attending four-year colleges upon graduation.

While the City's Catholic Schools do an admirable job, the comparison between the two systems is not apt. The student bodies of the two systems are markedly different. Catholic schools have far fewer students eligible for free lunch, or who are Limited English Proficient. The City's public school students are approximately 84% minority, compared with approximately 56% of Catholic school students. Catholic schools enroll very few special education children. They also are able to expel from the system any students who are disruptive. Finally, the vast majority of Catholic School teachers are not unionized, and there was credible evidence in the record that many choose lower pay in order to work in a religious environment.

Defendants point to recent BOE annual budget surpluses as evidence that the funds provided to BOE are sufficient or that BOE is unable to spend the money given to it because of its hopeless inefficiency.[41] Defendants quote from a letter from plaintiffs' counsel to a BOE official in which he states "How do we defend these [BOE] surpluses ... and plead poverty?"

The evidence demonstrates that these surpluses are the product of sound budgeting practices and not signs of abundance. The practice allows for rational long-term financial planning and enables extra and ongoing funding of high-priority projects. Indeed, defendants defend transition adjustments on similar grounds, arguing that school districts need to provide for ongoing expenses.

F. The Actions of the City and BOE as Additional "Causal Links"

The court has already held that the State's method for financing education is a substantial cause of the failure to provide New York City public school students with the opportunity for a sound basic education. Under the State Constitution the State is ultimately responsible for the delivery of a sound basic education, and any failure to do so may not be blamed on the actions of its subdivisions BOE or the

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[41]In Fiscal Year 1997 BOE had a $226 million budget surplus. In Fiscal Year 1998 BOE had a $259 million surplus. In Fiscal Year 1999 BOE had a $212 million surplus.

City.

Even if the State Constitution did not place upon the State this ultimate responsibility for the provision of a sound basic education, the State's distribution system for its own funding, in isolation, remains a cause of this constitutional violation. The law recognizes that there may be many "causal links" to a single outcome, and there is no reason to think that the Court of Appeals' 1995 opinion mandates a search for a single cause of the failure of New York City schools. For this reason, even if the State were not ultimately responsible for the actions of BOE or the City, its own actions expose it to liability.

1. Defendants' Assertions Regarding BOE

Defendants alleged at trial that BOE wastes vast sums of money through fraud, corruption and waste.

The evidence demonstrates that decentralization of the governance of the New York City School District led to inefficiency, mediocrity and corruption in some of the City's community school districts. Pursuant to the broad decentralization law passed by the legislature in 1969, community school boards were given control of elementary and middle schools in their respective districts. This power included the power to hire an array of school personnel, from district superintendents to principals to school aids. The central board

retained control of City high schools, special education and a variety of city-wide programs.

In many of the City's school districts, community school board members were more concerned with their own political advancement (and in some cases, with their enrichment) than they were with education. Board members used their hiring power to find jobs for supporters and relatives. Some board members received kick backs in return for the provision of jobs. Theft of school supplies was common in certain corrupt school districts. Some of the worst community school boards had jurisdiction over schools in the City's poorest neighborhoods.

The evidence did not show that large sums were lost to corruption and fraud. The most important results of corrupt or inept community school boards was demoralization of school staff and inattention to educational issues. The evidence indicates that student performance in some districts inevitably suffered as a result of poor governance by community school boards. There was no probative evidence measuring the magnitude of this negative effect, however.

Moreover, the failings of community school boards cannot be blamed on BOE. The decentralization law gave BOE limited powers to oversee the boards. To the extent that defendants allege that corruption and waste by community school boards had a negative effect on student outcomes, the blame must lie with the State for perpetuating

a form of school governance that generated corruption and waste. Though problems with decentralization became clear by the early 1980s, the State did not diminish the powers of community school boards until 1996. This legislation, however belated, appears to have reduced malfeasance in the City's public schools. In addition, BOE is subject to extensive financial reporting rules and regulations. It is also served by an active Special Commissioner for Investigation who is charged with investigating corruption, fraud, conflicts of interest and other forms of unethical conduct. Both of these are checks on widespread illegality.

Defendants presented some probative evidence that BOE does not make the most effective use of all the money provided to it. However, BOE's record of waste is not so grim as defendants allege.

As discussed in subsection IV(G), above, defendants provided some evidence that BOE's personnel could be more effectively managed. However, the issues of productivity gains and incentive pay are two of many that must be considered in contract negotiations with the relevant unions. Any cost savings realized by productivity gains would likely be offset by the costs of improving working conditions and increasing teacher salaries in order to attract and retain better teachers.

Defendants are correct that BOE's methods for evaluating teachers and improving their performance are currently ineffective. However, as discussed above these failings are to some degree a function

of inadequate funding. Because of a dearth of qualified teachers willing to work in the City's public schools, supervisors are often unwilling to take steps to replace ineffective teachers. Additionally, professional development that could help underperforming teachers is currently underfunded in the City's public schools.

Defendants presented little evidence concerning BOE's allegedly wasteful spending on administration. Plaintiffs point out that BOE spends a smaller percentage of its budget on its central administration than the statewide average. The most recent estimates introduced at trial indicate that New York City spends 1.8% of its budget on central administration, compared with 1.9% statewide (an average that includes New York City). Additionally, BOE spends 77.8% of its funds on instruction, a greater proportion than the 76.1% statewide average. These figures do not reveal that the funds they encompass were spent *effectively*, but the comparison does cast some doubt on BOE's reputation as a top heavy bureaucracy.

Defendants did not provide convincing evidence that BOE is responsible for failure to conduct preventive maintenance on the City's public school buildings. Rather, the evidence shows that BOE lacks sufficient funds to conduct all necessary preventive maintenance, and must devote the lion's share of its limited resources to fixing major structural problems at the schools.

Defendants' claims that BOE is profligate in its new

construction spending are also not supported by the record. The credible evidence demonstrates that construction of new schools will have to be part of any plan to deal with overcrowding. As discussed in section IV above, the defendants' proposals to simply increase the utilization of existing school buildings would overtax these buildings and impede students' access to the educational resources they need for a sound basic education. Additionally, defendants' claim that the schools built by BOE are educational "Taj Mahals" are not supported by the record. The evidence indicates that, with a few exceptions, BOE and the School Construction Authority are building functional schools without unnecessary amenities. The record does establish that some inefficiencies have been created by the State-imposed division of authority between BOE and the School Construction Authority. However, the Authority was created by the State. To the extent that it has hampered school construction in New York City, the responsibility must lie with the State.

The most serious evidence of BOE's inefficient spending concerns special education. However, fixing the problems of special education will cost money which will largely offset any cost savings realized by reform.

In New York City, approximately 135,000 students are enrolled in full-time or part-time special education programs, almost 20,000 of whom are students with severe and profound disabilities. BOE spends

over $2.5 billion annually, more than 25% of its total budget, on special education.

Applicable federal and State laws require each school district to provide a continuum of educational services for students who have been recommended for special education services. The services on the continuum range from those that are "less restrictive" (i.e. involve contact with students who are not disabled) to those which are "more restrictive" (i.e. involve less contact with students who are not disabled.) By State and federal law special education students should be educated to the greatest extent possible in the least restrictive environment.

A recent task force convened by the Mayor Giuliani, which included then City Schools Chancellor Rudy Crew, concluded that "tens of thousands" of students who are not disabled are placed in special education classes in New York City. Studies conducted in the early 1990s in part by one of plaintiffs' experts, Dr. Mark Alter,[42] found that more than 80% of students classified by the City's special education system as learning disabled did not meet the threshold criteria for learning disability. The overplacement in special education of students erroneously classified as learning disabled is significant because approximately 59% of all special education students are so classified.

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[42]Dr. Alter is a Professor of Educational Psychology and Chairman of the Department of Teaching and Learning at the School of Education at New York University.

Compared to the rest of the State and to the rest of the nation, New York City's public schools have a higher proportion of special education students enrolled in separate classes or in programs in separate educational settings -- in other words, in the more restricted end of the placement continuum. According to the most recent SED annual report, 58% of the City's special education children are in restrictive placements. Such placements are expensive and often can cause inappropriately referred students tangible educational harm.

The evidence demonstrates that the primary causes of New York City's overreferral and overplacement in restrictive settings are a lack of support services in general education and State aid incentives that tended until recently to encourage restrictive placements. With respect to State aid, the State funding formula was amended in 1999 to provide greater financial incentives to place students in less restrictive settings.

However, it remains true that the disproportionate number of New York City students placed in special education is directly related to the lack of educational and support services in the general education environment. This finding has consistently been reaffirmed by SED and BOE studies. Defendants cite a portion of a study conducted by Dr. Alter which appears to reach the opposite conclusion. Properly placed in context the passages relied upon by defendants do not support their argument.

The cause of overreferral is not hard to trace: given large class sizes in general education and comparatively smaller class sizes in special education, teachers and parents who believe a student's learning needs are not being met in general education will often attempt to obtain more individualized instruction by referral to special education. Placement in special education for these children is facilitated by the flexible definition of "learning disability" under applicable State regulations.

The fiscal implications of overreferral and overplacement are significant. According to BOE documents, the budgeted cost of educating even a part-time special education student in 1998-99 was approximately twice the cost for a general education student ($14,405 vs. $7,225). The average budgeted cost to serve a full-time special education student ($24,313) was over three times the general education cost.

These numbers suggest the potential for significant cost savings. Defendants' expert, Dr. Daniel Reschley, Chairman of the Department of Special Education at Peabody College at Vanderbilt University conducted studies which generally support the conclusion that special education reform could save significant amounts of money. Dr. Reschley testified that, even without reducing the total number of students receiving special education services, BOE would reduce its annual expenditures by $300 to $335 million if students with disabilities were placed in less restrictive settings according to the

national average. Once these figures are adjusted for the reduction in State reimbursement that would occur, the BOE could still save somewhere between $105-185 million per year, depending on the assumptions made. Additional savings would be realized by moving students out of special education entirely.

Plaintiffs point out that BOE has recently taken steps to decrease the overreferral of students to special education, and the overplacement of special education students in restrictive settings. Plaintiffs assert that students removed from special education will continue to have problems that will have to addressed by services in addition to those currently available in general education classes.

Plaintiffs are correct that the cost savings projected by defendants would be offset by the cost of providing to students removed from special education an array of necessary educational and support services in general education. Additional preventive resources would be necessary to staunch the flow of inappropriate referrals to special education. Finally, special education currently has several significant deficiencies that will cost money to fix, such as too-large class sizes and too many uncertified teachers. New and successful models of least restrictive placements have also proven to be expensive.

Despite these offsets, the evidence introduced at trial indicates that tens of millions of dollars annually could be saved by special education reforms. The evidence concerning cost savings above

that range is equivocal.

2. Defendants' Assertions Regarding The City

Defendants correctly point out that the City, despite a higher proportion of at risk students, spends substantially less on education than other localities around the State. Defendants' expert, Dr. Michael Wolkoff, Deputy Chairman of the Department of Economics at the University of Rochester, provided data tending to show that New York City's effort has lagged behind that of other districts in the State at least since 1991.

In 1996-97, the latest year for which comparative data are available, New York City raised only about $4000 per pupil from local resources, while school districts in the rest of the State raised on average about $6200. Dr. Wolkoff testified that New York City's local education contribution per student is exceeded by every member of the wealthiest quartile of districts, by nearly every district in New York City's own quartile (the second wealthiest), by many districts in the second poorest quartile and even by one district in the poorest quartile.

Defendants argue that the State-local partnership in school funding allows a local district to choose to spend more than the average local contribution, but the State is not required to lift up laggard districts. Defendants argue that New York City in recent years has

tried to buck this principle by reducing its contribution as the State has increased its contribution to education. The evidence at trial supports this assertion. Based on data compiled by the State Comptroller's Office, the share of school district spending represented by State aid grew over the period 1986-97 from slightly over 37% to more than 42% for New York City, while in the rest of the State the share of State on average spending decreased from over 41% to below 37%. Over the same period, the City's local share of education funding decreased from over 52% to below 48%. BOE has noted this phenomenon in official documents.

Plaintiffs do not dispute Dr. Wolkoff's testimony on this issue, but point out that New York City collects more tax revenue per capita than the State average and argues that this demonstrates that the disparity in education funding is a result of the extraordinary burdens placed upon the City's fiscal resources by the need to provide extensive and expensive municipal services.

The evidence confirms that New York City's combined property and income tax burden is above the New York State average. In February 2000, the Independent Budget Office published an analysis demonstrating that City residents' combined property and personal income tax burden averaged $7.26 per $100 of income, compared to averages of $6.90 per $100 in the City's suburban counties and $6.78 in upstate counties.

In addition to this higher-than-average tax burden, various

structural characteristics impede New York City's ability to fund education at a constant and more generous level.

Outside of New York City, local school districts rely principally on property taxes to finance school budgets. By contrast, local education funding in New York City is derived from municipal revenues. Approximately 37% of these municipal revenues are raised from property taxes. Twenty-one percent of municipal revenues come from personal income tax, 16% from sales taxes and 26% from all other taxes, including a variety of business taxes. Income, sales, and business taxes are particularly susceptible to changes in the local economy. New York City's economy has come to rely to a great degree on cyclical business sectors, namely finance, insurance and real estate, creating a tax base sensitive to the vagaries of the economy.

In addition to the instability created by a tax base particularly sensitive to business cycles, New York City's municipal finance system is subject to an extraordinary array of demands for services. The per capita costs of providing these services are increased by higher demand in New York City and higher regional costs. Some of the demand is amplified by State requirements. For example, the State has imposed a matching requirement for Medicaid and public assistance funding which forces City taxpayers to pay nearly $300 more per capita for Medicaid and $70 more for public assistance than residents in the rest of the State. New York City also has a heavy debt burden that

reduces its ability to support education.

In addition to these impediments to increased City funding, the City is also under no legal compulsion to maintain its funding at a given level. The evidence at trial demonstrated that the State's "maintenance of effort law," which is ostensibly designed to stabilize the City's education funding, is ineffective. This law, referred to as "the Stavisky-Goodman bill" requires New York City to appropriate an amount of funds to BOE from the total budget equal to average proportion of the total budget appropriated for the Board in the three preceding fiscal years. Because this law applies to all funds within the City budget, not just local revenues, the City is generally not forced to spend more of its own funds. The Regents and SED have repeatedly and in vain called for the legislature to strengthen Stavisky-Goodman.

In sum, the court finds that the City's ability to contribute to education is hampered by its diversified tax base, its higher costs for other municipal services, and by its debt burden. However, as discussed below, it is the legislature's duty in the first instance to reform how education is financed in New York State in conformance with the strictures of the Education Article of the State Constitution. This duty entails evaluation of a variety of policy choices. If the legislature determines that the City, despite the substantial impediments described above, should fund education more consistently and generously, it has the power to force it to do so, inter alia, by

tightening its maintenance of effort law.

Having found that the State's system of school funding violates the Education Article of the State Constitution, the court now addresses plaintiffs' claim arising under federal law.

VI. TITLE VI REGULATIONS CLAIM

Plaintiffs' second claim arises from implementing regulations promulgated pursuant to Title VI of the Civil Rights Act of 1964 (42 USC § 2000d). Section 601 of Title VI provides that:

> [n]o person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

(42 USC § 2000d.)

The Supreme Court has ruled that a plaintiff must make a showing of intentional discrimination to succeed on a Title VI claim (Guardians Assn. v Civil Service Commission of the City of New York, 463 US 582, 610-11 [Powell, concurring], 639-42 [Stevens, dissenting] [1983]).

Plaintiffs make no claim of intentional discrimination here. Instead plaintiffs rely on regulations promulgated by the U.S. Department of Education ("DOE") pursuant to Title VI. Section 602 of Title VI expressly authorizes federal agencies to promulgate rules and

regulations to effectuate its provisions (see 42 USC § 2000d-1).

The DOE regulations relied on by plaintiffs incorporate a disparate impact standard of liability. The U.S. Supreme Court has held that federal agencies have the authority to promulgate regulations pursuant to § 602 that prohibit recipients of federal funds from taking any action that results in a disparate impact or produces discriminatory effects on the basis of race, color or national origin (see Guardians Assn, supra, 463 US at 584 n 2, 591-2, 623 n 15). As the Court of Appeals has already held in this case, "under Title VI's implementing regulations, proof of discriminatory intent is not a prerequisite to a private cause of action against governmental recipients of federal funds." (86 NY2d at 322.)

The DOE regulations provide, inter alia, that recipients of federal funding may not

> utilize criteria or methods of administration which have the effect of subjecting individuals to discrimination because of their race, color or national origin, or have the effect of defeating or substantially impairing accomplishment of the objectives of the program as respect individuals of a particular race, color or national origin.

(34 CFR § 100.3[b][2].)

Although the Supreme Court has not yet ruled on the issue, the vast majority of courts have agreed that the parties' respective burdens in a Title VI disparate impact case should follow those used in

Title VII employment discrimination cases (see Powell v Ridge, 189 F3d 387, 393-4, cert denied 528 US 1046 [1999]; New York Urban League v State of New York, 71 FR3d 1031, 1036 [1995]; Sharif v New York State Educ. Dept., 709 F Supp 345, 361-62 [1989] [Title VII burden shifting analysis applied in Title XI case]).

Thus, a plaintiff in a Title VI regulation disparate impact case bears the initial burden of establishing a prima facie case that a facially neutral practice has had an adverse and disparate impact upon a protected class of people (see New York City Environmental Justice Alliance v Giuliani, 214 F3d 65, 69 [2000]). If the plaintiff meets that burden then the defendant must demonstrate a "substantial legitimate justification" for the practice. In the education context, the defendant must demonstrate that the challenged practice is justified by "educational necessity" (see Board of Education v Harris, 444 US 130, 151 [1979]; Georgia State Conf. Of Branches of NAACP v State of Georgia, 775 F2d 1403, 1418 [1985]; Sharif, supra 709 F Supp at 361-2). If the defendant meets its rebuttal burden, then the plaintiff must establish either that the defendant overlooked an equally effective alternative with less discriminatory effects or that the proffered justification is no more than a pretext for racial discrimination (see Powell v Ridge, supra, 189 F3d at 394).

In analyzing this claim, the court relies on much of the fact finding set forth above. In order to avoid needless repetition, the

following findings of fact refer wherever possible to previous relevant findings.

A. Plaintiffs' Prima Facie Case

Plaintiffs argue that they have made out a prima facie case of disparate impact by per capita funding comparisons and by regression analyses performed by their expert, Dr. Robert Berne, a Professor of Public Administration at New York University. They also rely upon certain findings of defendants' expert Dr. Wolkoff. The court agrees with an implicit premise of plaintiffs' analyses: that money is a crucial determinant of educational quality, and that receipt of less educational funding by minority students is an adverse disparate impact within the purview of DOE's Title VI regulations.

Stating this premise in the abstract is easier than applying it to the facts of this case. Plaintiffs must first prove the existence of a disparate adverse impact felt by minority students. Tracking the educational funding spent on minority and non-minority students in New York State is not a straightforward exercise. The State's school funding system provides money to districts, not to individual students, and it does so for the most part according to "weighted pupil units," not by a simple nose count of pupils.[43] Under Title VI and DOE's

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[43]As discussed above State aid formulas weight certain students, such as at risk students, more heavily to account for particular educational needs. Others are weighted less heavily, such as

regulations, the disparate impact complained of must fall on individuals, not upon governmental entities such as school districts.

The filtering of school funding through localities also requires that some attention be paid to causation. Plaintiffs must prove that the State's school funding mechanism *caused* the alleged disparate impact.

1. Per Capita Funding Comparisons

Plaintiffs' per capita funding comparisons are based on the following facts: 1) 73% of the State's minority public school students are enrolled in New York City's public schools, 2) minority students make up approximately 84% of New York City's public school enrollment, and 3) New York City receives less funding per capita, on average, than districts in the rest of the State. From these facts plaintiffs ask the court to conclude that the State's funding mechanism has a disparate adverse impact upon a super-majority of the State's minority student population.[44]

Plaintiffs are correct that not all the State's minority

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kindergarten students who spend only a half day in school. A weighted pupil count reflects the State's assessment of a district's particular needs based on information about pupils.

[44]As used herein, "minority" refers to students with the following heritage: African-American, Latino, Asian-American and Native American/Pacific Islander.

students need to be adversely affected before this court may hold that the State's funding mechanism has a disparate impact (see Powell v Ridge, supra, 189 F3d at 396).

The court finds that where, as is the case here, 73% of a state's minority students are concentrated into a single district, then comparisons of that district's funding with average district funding in the rest of the State can be an accurate indicator of the presence (or absence) of a disparate impact based on race. This is particularly true here where approximately 84% of the City's public school children are members of minority groups. The size of this percentage obviates the need to break the huge New York City school district into its constituent community school districts in order to investigate disparate funding of minorities and non-minorities within New York City.

An analysis that relies on comparisons of district funding for purposes of determining the presence or absence of a disparate impact is endorsed in the Court of Appeals' 1995 decision (86 NY2d at 324). The Third Circuit Court of Appeals has endorsed a similar analysis in an action challenging Pennsylvania's school funding system. In that action, in which plaintiffs rely on the same DOE regulations invoked here, the Third Circuit held that plaintiffs stated a viable claim by alleging that Pennsylvania's educational funding system

> gives school districts with high proportions of white students on average more Commonwealth treasury revenues than school districts with high proportions of

non-white students, where the levels of student poverty are the same.

(Powell v Ridge, supra, 189 F3d at 398.)

A similar analysis comparing funding of geographic units was used to find liability under a disparate impact theory in Meek v Martinez (724 F Supp 888 [1987]), a case involving a challenge to funding under the Older Americans Act of 1965 (42 USC § 3021). In Meek, plaintiffs claimed that Florida's formula for allocating funds to senior citizens pursuant to the Act discriminated against minority seniors. The court compared the effects of the State's allocation formula with a stripped down version of the State's formula that excluded certain elements that plaintiffs claimed favored White seniors. Under the statute, funds were distributed to geographically defined districts, known as Planning and Service Areas ("PSAs"). The court found a disparate impact when it compared the amount of funding directed under the two formulas to the four highest and four lowest percentage minority PSAs in Florida. The high percentage minority PSAs received less funding under the State's formula than they did under the alternate formula (Meek, 724 F Supp at 906). The Meek court ultimately found that this disparate impact could not be justified by any valid state policy and so held that Florida's distribution of funds under the Older Americans Act violated Title VI regulations promulgated by the U.S. Department of Health and Human Services.

Plaintiffs' complaint herein frames their Title VI regulation

claim by reference to the State education financing system as a whole, alleging that "the State education financing scheme" causes a disparate impact on minority students.[45] However, plaintiffs' post-trial submission attempts to demonstrate disparate impact by focusing entirely on evidence of disparities solely in the allocation of State aid. Plaintiffs may have focused solely on the State portion of school funding in recognition that both the Supreme Court and the Court of Appeals have held that disparate funding caused by wealthier, higher spending, school districts within the State is an inevitable -- and constitutionally permissible -- consequence of a state-local partnership in education funding (San Antonio, supra, 411 US at 50-51; Levittown, supra, 57 NY2d at 45-6).[46]

Focusing then entirely on the State component of education funding, the court finds that from 1994-95 to 1999-2000, New York City has consistently received less total State aid than its percentage share of enrolled students. In those years, New York has approximately 37%

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[45] Amended Complaint ¶ 84.

[46] Looking at State and local aid in combination, New York City schools have historically spent less per student than the State's average. SED has reported for more than a decade that the New York City public school system spends substantially less per weighted pupil than the State average. In 1997-98, for example, all major school districts except New York City spent $8546 per weighted pupil. New York City spent $7299, or $1247 less, per weighted pupil. This discrepancy also appears when measured in terms of expenditures per enrolled pupil. In 1997-98 New York City spent approximately $8,788 per enrolled pupil. The average for districts in the rest of the State was $10,342 per pupil.

of the State's enrolled students and has received a percentage of total State aid ranging from 33.98% to 35.65%. This is evidence of disparate impact. Defendants' argument that transportation aid and building aid should be omitted from this analysis is without foundation. These two funding components are obviously essential in delivering core educational services.

Defendants also argue that since State aid is generally awarded according to average student attendance, not enrollment, the correct comparison is to measure State aid by the City's attendance, not by its enrollment. Because City schools tend to have greater problems with truancy, their average attendance tends to be a smaller portion of total enrollment than that of other schools around the State. Accordingly, comparing State funding to a student roster measured by average attendance would tend to decrease the City's historic pro rata shortfall.

The court holds that disparate impact may be measured by comparing funding to enrollment figures and that the data presented by plaintiffs demonstrates a disparate impact in this case. Defendants' policy justifications for distributing funding by attendance are more appropriately considered in the second stage of the disparate impact burden-shifting analysis mandated by Title VI regulations. In other words, when the burden of proof shifts to defendants, the court will consider their argument that using an average attendance measure to

distribute funds is supported by a "substantial legitimate justification."

The parties' other non-statistical evidence concerning disparate impact in State aid distribution is not persuasive.

Plaintiffs' expert, Dr. Berne, examined a weighted student unit, "State Aid per TAPU for expense," a unit that is used annually by SED to compare funding among districts in New York City. He found that New York City received less State aid per this pupil unit than the average in the rest of the State. In 1997-98 New York City received approximately $3007 in State revenue per TAPU for expense. The average for the rest of the State was approximately $3325 per TAPU for expense. By this measure, the City receives approximately $318 less per pupil unit. Dr. Berne did not testify as to whether this disparity was subject to a test of statistical significance. Such a test would provide some indication whether the observed disparity was explainable by chance. By contrast, defendants' expert Dr. Wolkoff, in his study of statewide per capita funding disparities, which is described below, did conduct tests of statistical significance of the comparatively small disparities he observed using a difference of means test.

Dr. Berne's analysis of TAPU per expense funding disparities is undercut by his failure to address whether the disparity observed in funding allocated by TAPU per expense was attributable to chance. Additionally, Dr. Berne's failure to conduct a similar analysis in other

school years limits the probative value of the conclusion that he drew from this single year's disparity.

On the other hand, Dr. Berne's analysis may be considered to be conservative in that it ignores two factors that would tend to exacerbate disparate funding. First, it does not take into account New York City's higher regional costs in providing educational services. As noted above, New York City's higher regional costs depress its buying power for educational services. When examining funding disparities among geographic districts, differences in costs within those geographic districts is relevant in a disparate impact analysis (see New York Urban League, supra 71 F3d at 1038). Second, it does not account for the higher proportion of STAR tax relief afforded school districts outside the City. As noted above, the STAR program has the effect of directing more education dollars to districts outside the City.

Plaintiffs also attempt to rely on certain data introduced during the testimony of defendants' expert Dr. Wolkoff. This data purportedly compares New York City's per pupil spending with the rest of the State excluding New York City. However, the exhibits relied upon by plaintiffs for this point all contain statewide averages that *include* New York City.[47] In neither his direct testimony nor his cross examination did Dr. Wolkoff break this data out into a statewide average that excluded New York City. During cross examination, plaintiffs

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[47]See Defendants' Exhs. 19383-6.

showed Dr. Wolkoff a Memorandum of Law submitted by defendants in support of a pre-trial motion for summary judgment that purported to perform this division between the City and the rest of the State for data from 1995-96. However, the relevant portion of the memorandum cites an affidavit submitted by Dr. Wolkoff which does not contain this calculation.[48] The court was unable to ascertain whether the calculation contained in the memorandum received the imprimatur of any expert.[49] Accordingly, the court declines to rely on this evidence proffered by plaintiffs. To disprove disparate impact defendants relied on statewide per capita funding comparisons conducted by Dr. Wolkoff. For two school years, 1995-96 and 1996-97, Dr. Wolkoff examined the per pupil (unweighted) expenditures of all of the State's school districts, and then made the assumption that minority students in each district are funded at the district average.

By averaging minority and non-minority per pupil expenditures

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[48]See Memorandum of Law in Support of Motion by the State of New York and Commissioner of Taxation and Finance Roth for Judgment Dismissing Plaintiff's [sic] Claims under Title VI Implementing Regulations, dated July 6, 1999, at 30; Affidavit of Michael J. Wolkoff in Support of Defendants' Motion for Summary Judgment, sworn to July 1, 1999, ¶ 15, and exh. B at 14.

[49]Indeed, Defendants' Trial Evidence Volume Accompanying Brief contains a different calculation of State aid per enrolled non-New York City student for 1996-97 than does Plaintiffs' Proposed Finding of Fact and Conclusions of Law. (Compare Defendants' Trial Evidence Volume Accompanying Brief at 290 n 101 with Plaintiffs' Proposed Findings of Fact and Conclusions of Law, Volume II at 1067, ¶ 2045 and Dr. Berne's testimony at 22610-11.)

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in all districts across the State, Dr. Wolkoff found that average State aid per minority pupil as measured by attendance was $4097 in 1995-96 while average State aid per non-minority student in attendance was $4019. In other words, as measured by students in attendance, minority students in the State actually received an average of $78 more per pupil more than non-minority students. In the same year, Dr. Wolkoff found that aid per enrolled minority students was $3615, compared with $3767 per enrolled non-minority student. In other words, as measured by students enrolled in public schools statewide, Dr. Wolkoff found that minority students received $152 less than non-minority pupils. The differences between enrolled and attending students reflected a lower attendance rate by minority students compared with their non-minority peers. Dr. Wolkoff showed similar results for the 1996-97 school year.

Dr. Wolkoff found that these differences in average per-pupil expenditures statewide between minority and non-minority students were too small to be statistically significant.

Dr. Wolkoff's per capita analysis fails to account for regional cost differences, which, as discussed above, are highest in New York City. He also made no effort to account for the relative advantages that districts outside of New York City enjoy because of STAR tax relief. Additionally, his analysis does not account for the concentration of minority students in New York City and his minority averages appear to have been driven up by a few high spending districts.

In all, the court is not persuaded by either Dr. Berne's or Dr. Wolkoff's per capita analyses of the distribution of State aid.

2. Dr. Berne's Regression Analyses

Dr. Berne's regression analyses are probative evidence of disparate impact and provide independent proof of disparate impact.

Dr. Berne conducted a statistical regression analysis for the 1995-96 and 1996-97 school years to determine whether minority and non-minority students attending similar districts receive the same level of aid. His analysis used five different pupil "units" used by the State to distribute or analyze the State school finance system. He analyzed operating aid, the largest aid category, in isolation, and he analyzed all aid distributed by computerized formulas, which accounts for approximately 95% of all State aid.

Based on his review of the State's justifications for its present funding system, and upon a review of the national literature concerning school finance, he selected a number of independent variables to determine their effect on the distribution of State aid. These variables included : 1) property and income as measured by the combined wealth ratio, 2) effective tax rates, 3) levels of student poverty as measured by the provision of free and reduced-price school lunch, 4) the number of ELL students, 5) district attendance rates, 6) district size 7) percentage of non-minority students, and 8) the number of students

with disabilities (this data was available for 1996-97 only).

Dr. Berne conducted thirty regressions for each of the two years studied. Regardless of the variables, weighting, and student counts applied, Dr. Berne determined that the State aid system had a disparate racial impact on minority students across the State in every regression. Fifty-eight of the 60 regressions were statistically significant. Dr. Berne's regressions tend to show that minority students receive less State aid as their overall concentration increases in a particular district.

Dr. Wolkoff leveled several critiques against Dr. Berne's regression analyses and reworked several of the regressions by adding his own variables. Dr. Wolkoff testified that the failure to include non-formula aid (i.e. the five percent of State aid that is not distributed by formulas) may have skewed Dr. Berne's results. Dr. Wolkoff noted that a number of these non-formula aids funnel money by criteria that often sends the aid to the State's minority public school students. For example, categorical reading aid goes only to the Big Five school districts, which of course contain the vast majority of the State's minority students. Dr. Wolkoff, though he replicated many aspects of Dr. Berne's regressions, did not attempt to quantify the effect the inclusion of these categorical aids would have on the regressions. Given the relatively small total dollar amount of categorical aids, and the fact that many do not appear on their face to

direct a higher proportion of aid to high minority districts, this criticism does not undermine the validity of Dr. Berne's regressions.

Dr. Wolkoff also correctly points out that Dr. Berne did not account for the fact that the operating aid formula contains a "floor," by which all districts, no matter how wealthy, receive at least $400 per pupil in operating aid. Dr. Berne instead assumed an entirely linear relation between wealth and the distribution of operating aid, where the two were inversely related. Dr. Wolkoff attempted to account for this non-linearity in his regressions. When he did so he found no statistically significant results that tended to show that non-minority students receive more State aid than minority students.

The court notes that this result is highly counter-intuitive. Accounting for the $400 floor that is guaranteed even the richest districts -- which generally have low percentages of minority students -- would appear to exacerbate, not ameliorate, the funding disparities favoring low-minority districts observed by Dr. Berne.

In all events, Dr. Berne adequately justified his decision not to model the $400 floor in his regressions. The regression analyses were not meant to exactly replicate the computer aid formulas run by the State. Minority status is obviously not an explicit factor in the State aid formulas. The point of the regression analyses is to see if minority status of students is, *sub rosa*, a factor that determines the distribution of State aid. This factor cannot be measured if the

funding formulas are simply re-created verbatim.

For the reasons stated the evidence demonstrates the existence of a disparate adverse impact on minority students caused by the State's school funding system.

With respect to the causation issue, the facts in this case demonstrate that disparate funding of school districts in the State has had a real effect on individual students. The court has already found, in ruling on plaintiffs' claim under the Education Article, that lack of sufficient district funding has had a negative effect on student performance. While defendants demonstrated that there is some inefficiency, waste and corruption in the New York City School District, these factors do not break the chain of causation between disparate funding distributed by the State school finance system and poor student performance.

B. Defendants' Asserted "Substantial Legitimate Justifications"

The plaintiffs having made out a prima facie case, the burden of persuasion now shifts to defendants to demonstrate a substantial legitimate justification for its system of distributing school funding. As noted above, the State's justification must be related to "educational necessity," that is it must bear a "demonstrable relationship to classroom education." (Georgia State Conf., supra, 775

F2d at 1417-18.)[50]

Defendants articulate four broad justifications for the disparate impact caused by the distribution of State school aid. First, defendants argue that school funding formula are wealth-equalizing and New York City is a relatively more affluent school district. Second, they argue that directing funding according to districts' average attendance, rather than to enrollment, is related to the State's legitimate objectives of encouraging districts to keep attendance up and discouraging their inflation of enrollment figures. It is undisputed that the City is harmed by using attendance, rather than enrollment, as the benchmark, because it has a higher than average truancy rate. Third, defendants argue that distributing transportation and building aid on a reimbursement basis, which has historically harmed the City, is justified. Fourth,

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[50]There is currently some division among the federal courts as to whether a defendant's burden is one merely of production or one of proof. Some courts seem to assume that the Civil Rights Restoration Act of 1991 did not, for Title VI cases, reverse the "burden of production" rule set forth in Wards Cove Packing Co. v Atonio (490 US 642, 659-60 [1989]). (See Cureton v National Collegiate Athletic Assn., 37 F Supp2d 687, 697 [1999], rev'd on other grounds 198 F3d 107; see also Graham v Tennessee Secondary School Athletic Assn., __ F Supp __, 1995 WL 115890 *17 n 5 [1995] [noting continuing effect of Wards Cove is "unclear"], appeal dismissed 107 F3d 870; cf Elston v Talladega County Bd. Of Educ., 997 F2d 1394, 1412 [1993] [burden of proof shifts].) It appears to this court that the better argument is that the explicit provision of the Civil Rights Restoration Act shifting the burden of proof to defendants in Title VII cases applies by longstanding precedent to analogous anti-discrimination laws such as Title VI. That is how this court reads the Court of Appeals' 1995 decision (see 86 NY2d at 323).

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defendants argue that their formulas take student need into account.

This final justification may be disposed of summarily. The court has already found that New York City does not receive State aid commensurate with the needs of its students and that it in fact receives less State aid than districts with similar student need.

Defendants claim that wealth equalization is "the principal explanation for NYC's receipt of lower aid per enrolled student than the average in the rest of the State."[51] The court finds that wealth equalization, when properly implemented, can be a valid goal for State school aid. By attempting to compensate for differences in district wealth, wealth equalization may be an important component of a school funding scheme that assures the delivery of a sound basic education.

However, as implemented, the State's efforts at wealth equalization do not further this substantial legitimate purpose. There are two principal reasons why this is so.

First, wealth equalization can do actual harm, where, as is the case in New York State, it is not coupled with funding mechanisms that effectively take account of differences in districts' student need. It may be generally true that a district's wealth is inversely correlated with its percentage of at risk students, but that generalization does not hold for New York City. New York City, though

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[51]Defendants' Trial Evidence Volume Accompanying Post Trial Brief, ¶ 655.

it is treated by State funding formulas as a relatively wealthy district, has a very high concentration of at risk students. Its public schools serve a relatively small proportion of middle to upper class children. Most of its students come from poor and working class families, and many of these children are at risk of academic failure. The State's school funding system does not adequately account for the needs of such children. This is one of the great failings of the State school financing system. The State Education Department has long documented the misalignment of resources in its Need/Resource Capacity Index, which is discussed above. Based on a comparison of districts according to their Needs/Resource Capacity Index ratios, SED has determined that New York City receives substantially less State aid than districts with similar needs.

Second, as described above, defendants' measure of wealth is inaccurate because it does not account for differences in regional costs. School districts face significant variation in costs incurred in delivering educational services, which in turn affects their ability to pay for various educational inputs. In 1999, SED noted the longstanding recommendations made by various blue ribbon panels to include regional cost estimates in the State aid formulas and concluded that "[t]he failure to explicitly recognize geographic cost differences within the major operating aid formulas has led to formula allocations which are inequitable." SED has quantified these differences in

regional costs. New York City's regional cost ratio is the highest in the State, which means that a dollar buys fewer educational resources in New York City than anywhere else in the State. This failure to include estimates of regional costs in its assessment of wealth compromises the State's wealth equalization scheme.

For these reasons, defendants have demonstrated that wealth equalization in school funding, in the abstract, is related to legitimate educational objectives. However, plaintiffs have demonstrated that this objective is not served in practice by the State's current school funding mechanism. It would be more effectively served by an alternate school funding mechanism that accounts more completely for student need and regional costs.

Defendants' defense of basing State funding on districts' average attendance, rather than enrollment, suffers from similar flaws. The State argues that keying State funding to attendance encourages districts to keep attendance levels high. The goal is laudable; the State's implementation of the goal is counter-productive or worse.

There is no question that a student's regular attendance at school is a prerequisite to a sound basic education. As SED has repeatedly recognized:

> Attendance is critical to teaching and learning. Poor attendance is statistically linked to low achievement. Schools with low attendance rates tend to be in urban areas, have large numbers of students on free or reduced lunch and high minority

composition. ...

> Poor attendance is often a signal that a student is disengaging from involvement in school. This disengagement can begin with not paying attention in class, can move to class cutting, and can end up in truancy. It can be caused by low self-esteem, poor instructional programs, fear for personal safety and lack of meaningful activities or relationships with others. Family environment and lack of parental encouragement can also contribute to attendance problems, as can health-related conditions, such as asthma.

The evidence demonstrates that at risk students have much higher rates of truancy. Accordingly, New York City, with its high percentage of at risk students, has a lower average attendance rate than most districts in the rest of the State. Lower attendance rates do not reduce New York City's obligations, however. The City is still required to provide space and staff to serve all enrolled pupils. This is a source of disparate impact.

The State's choice to base school funding on districts' average attendance is unnecessarily punitive. It creates a perverse direction of State aid by directing aid away from districts with large numbers of at risk students. The evidence at trial demonstrates that at risk students require a higher level of intervention to ensure attendance. As is clear from the facts recited in this opinion, the vast majority of the City's at risk students do not receive such services and instead are placed in schools lacking basic resources

necessary for a sound basic education. In part because of the State's insistence on attendance as a guiding measure of school aid distribution, the City is denied the resources it needs to provide a sound basic education.

Modifying State aid formulas to give some consideration to enrollment and at risk factors would result in less racial disproportionality than the current system. SED has recommended such a modification. The State has other options to increase attendance, such as directing adequate funding to programs that help assure higher attendance levels, such as arts, physical education, and school-based health services.

Defendants argue in passing that the reimbursement principles embodied in building and transportation aid send proportionally more dollars to districts in the rest of the State than to New York City. Defendants do not elaborate on this argument, which is contained in a footnote in their memorandum of law. They do not quantify the effects of building aid and transportation aid, nor set forth how their reimbursement principles bear a demonstrable relationship to classroom education. There was little evidence at trial concerning the distribution of transportation aid. The evidence concerning building aid demonstrates that the State's system for allocation of this aid category actually harms the City. Unlike most types of State aid, building aid does have a multiplier for regional costs. However, this

multiplier understates New York City's costs. The capital needs of New York City's public schools have been drastically underfunded. Accordingly, this argument is not persuasive.

For the forgoing reasons, the court finds unpersuasive defendants' justifications for the adverse disparate racial impact caused by the distribution of state aid. Plaintiffs have established a violation of the relevant Title VI implementing regulations.

VII. REMEDY AND ORDER

New York State has over the course of many years consistently violated the Education Article of the State Constitution by failing to provide the opportunity for a sound basic education to New York City public school students. In addition, the State's public school financing system has also had an unjustified disparate impact on minority students in violation of federal law.

The court will not at this time prescribe a detailed remedy for these violations. Rather it is the legislature that must, in the first instance, take steps to reform the current system.

The legislature must be given the first opportunity to reform the current system for several related reasons. First, the Court of Appeals held in its 1995 decision that the State Constitution "imposes a duty on the Legislature to ensure the availability of a sound basic education to all the children of the State" (86 NY2d at 315). Second,

this action has focused principally on how the current system affects New York City, but any remedy will necessarily involve the entire State. The legislature is in a better position to gauge the effects of reform on the State as a whole. Third, the legislature is better positioned to work with the Governor and other governmental actors who have a role in reforming the current educational system. In particular, the Regents, SED and BOE have far greater expertise than this court in crafting solutions to the educational problems discussed in this opinion. This expertise should guide the State as it reforms the current system. There is no need, at least at this time, for the court to supersede the legislature, the Governor, the State Education Department, and the Regents, in imposing a remedy.

That said, the court's deference to the coordinate branches of State government is contingent on these branches taking effective and timely action to address the problems set forth in this opinion. The parlous state of the City's schools demands no less. The court will not hesitate to intervene if it finds that the legislative and/or executive branches fail to devise and implement necessary reform.

Because the State is ultimately responsible for the provision of a sound basic education this court rejects defendants' contention that the City and BOE are necessary parties that must be joined in this litigation before any remedy may issue. The court recognizes that reform of the system of State funding for schools may also require

concomitant reorganization of school governance to ensure that funds are spent effectively. However, the State has the statutory power to change districts' management structure to ensure the more effective spending of education funding.

The following parameters must guide defendants' reform of the current system.

This court has held that a sound basic education mandated by the Education Article consists of the foundational skills that students need to become productive citizens capable of civic engagement and sustaining competitive employment. In order to ensure that public schools offer a sound basic education the State must take steps to ensure at least the following resources, which, as described in the body of this opinion, are for the most part currently not given to New York City's public school students:

1. Sufficient numbers of qualified teachers, principals and other personnel.
2. Appropriate class sizes.
3. Adequate and accessible school buildings with sufficient space to ensure appropriate class size and implementation of a sound curriculum.
4. Sufficient and up to date books, supplies, libraries, educational technology and laboratories.
5. Suitable curricula, including an expanded platform of

programs to help at risk students by giving them "more time on task."

6. Adequate resources for students with extraordinary needs.
7. A safe orderly environment.

In the course of reforming the school finance system, a threshold task that must be performed by defendants is ascertaining, to the extent possible, the actual costs of providing a sound basic education in districts around the State. Once this is done, reforms to the current system of financing school funding should address the shortcomings of the current system, by, inter alia:

1. Ensuring that every school district has the resources necessary for providing the opportunity for a sound basic education.
2. Taking into account variations in local costs.
3. Providing sustained and stable funding in order to promote long-term planning by schools and school districts.
4. Providing as much transparency as possible so that the public may understand how the State distributes School aid.
5. Ensuring a system of accountability to measure whether

the reforms implemented by the legislature actually provide the opportunity for a sound basic education and remedy the disparate impact of the current finance system.

Finally, the court directs defendants to examine the effects of racial isolation on many of the City's school children. There is significant social science research that indicates that this isolation has a negative effect on student achievement. There is also some nascent research that indicates that steps to increase racial and socio-economic integration may be more cost effective in raising student achievement than simply increasing funds allocated to high percentage minority schools (see James Ryan, Schools, Race & Money, 109 Yale L J 249).

The court hereby declares that defendants' method for funding education in the State of New York violates plaintiffs' rights under The Education Article of the New York State Constitution, (Article XI, Section 1); and

The court further declares that defendants' method for funding education in the State of New York violates plaintiffs' rights under regulations passed by the U.S. Department of Education pursuant to Title VI of the Civil Rights Act of 1964 (42 USC § 2000d; 34 CFR § 100.3[b][1], [2]); and

The court orders that the defendants shall put in place

reforms of school financing and governance designed to redress the constitutional and regulatory violations set forth in this opinion. Defendants shall have until September 15, 2001 to implement these reforms. The parties shall appear before the court on June 15, 2001 to describe the progress of these reforms. The court will retain jurisdiction over this matter for as long as necessary to ensure that the constitutional and statutory/regulatory violations set forth herein have been corrected.

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The court thanks all the attorneys, paralegals, and support staff involved in litigating this action. Given the enormous amount of relevant material and the sometimes novel legal issues, the attorneys for both sides tried the case intelligently, economically, and with a minimum of acrimony. Both sides fought hard, but they fought fair. The parties' written submissions were excellent.

The court commends the law firm of Simpson Thacher & Bartlett, which tried the case *pro bono* for the plaintiffs with Michael A. Rebell Associates. The firm expended enormous resources and its lawyers brought to bear great talent and perseverence in support of plaintiffs' cause. The firm's commitment is an exemplar of the Bar's highest traditions.

Settle Judgment.

DATE:

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forth herein have been corrected.

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DATE: JAN 09 2001

J.S.C.

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